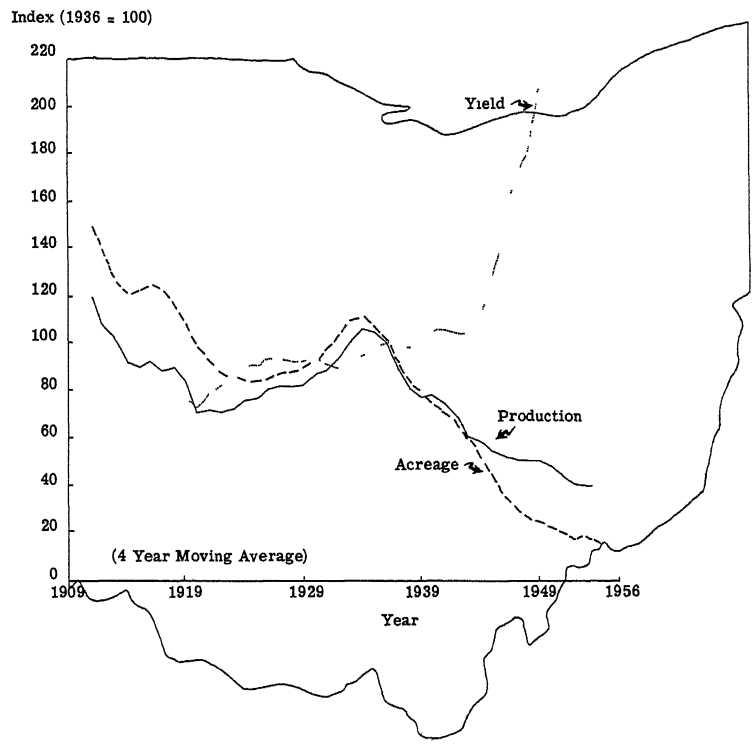
Research Bulletin 811 July, 1958

# TRENDS
## in the
# POTATO INDUSTRY
## with Emphasis on Ohio
# 1909 to 1956

By R. L. BERE and M. E. CRAVENS




OHIO AGRICULTURAL EXPERIMENT STATION
WOOSTER, OHIO

## TABLE OF CONTENTS

## SUMMARY


1. About 6 million bushels of potatoes are produced in Ohio each year. This is only half as many as were produced 50 years ago.
2. Acreage planted to potatoes has declined much faster than production. About 22,000 acres are planted in potatoes in Ohio today as compared with over 200,000 in 1900. Potatoes account for about 0.6 percent of the total farm income in Ohio.
3. Ohio's commercial potato production is concentrated largely in the Northeastern part of the state with scattered small areas of heavy production in the west central and other areas of the state.
4. Yields of potatoes have increased more than those of any other major farm crop in Ohio. Over 250 bushels are produced per acre in the state.
5. The production of certified seed potatoes in the United States has increased from 8 million bushels in 1930 to 45 million at the present time. The most important varieties are Katahdin, Cobbler, Russet Burbank and Red Pontiac.
6. The importance of large potato growing operations is increasing in Ohio. Two and one-half percent of the potato growers in 1954, with 10 acres or more, produced over 80 percent of the total Ohio potato crop. In 1944, this group produced 60 percent of the Ohio crop.
7. Farm prices of potatoes in Ohio have fluctuated rather closely around the level of prices received by Ohio farmers for all farm products. However, during the past 10 years, the Ohio farm price of potatoes has been relatively low compared with the level of prices received for other farm products.
8. Farm prices of potatoes in Ohio have averaged 20 to 40 percent above the average farm potato price in the United States during the period 1909 - 1955.
9. Ohio farm potato prices normally reach a peak in July and August when there are very few Ohio potatoes on the market. There has been relatively little average rise in potato prices from October through March during the past six years.
10. One of Ohio's most important advantages in potato production is its location. Ohio growers have a freight advantage in their own markets of about a $1.00 per hundredweight over Florida and Maine and from 20 to 40 cents advantage over nearby states such as New York and Michigan.
11. The consumption of potatoes in the United States has declined from about 170 pounds per person in 1910 to about 100 pounds at the present time. Potatoes supply only about half as large a percentage of our nutrient requirements today as they did in 1910.

12. Ohio produces only about one-third of the potatoes consumed by its population. An estimated 8 to 9 million bushels of potatoes are shipped into Ohio each year.
13. The importance of the potato processing industry is increasing. Over 10 percent of the potatoes in the United States are processed into chips today compared with 1 percent 20 years ago. Other forms of processed potatoes are showing similar increases.
14. Over half of the potatoes unloaded on the Cleveland wholesale market are shipped from Maine, Idaho and California. Ohio's competition from October through March comes largely from Maine and Idaho and from some nearby states.
15. The farmer's share of the consumer's potato dollar has varied from as high as 60 percent in the 1920's to 35 percent in the last few years.
16. Foreign trade in potatoes is relatively unimportant.

## CONCLUSIONS

Ohio growers have peculiar advantages in marketing. On the other hand, the fact that Ohio produces fewer potatoes than we consume is due to several disadvantages. The future of the Ohio potato industry and that of individual growers in Ohio depends on the future balance between these advantages and disadvantages.

The advantage of location and relatively low transportation costs for Ohio growers will continue but probably will decrease somewhat. This means a somewhat higher farm price for a comparable quality of Ohio potatoes than for potatoes from competing shipping areas. The price advantage of Ohio growers may be less than in the past.

The existence of a large market for potatoes for chipping is a very favorable factor for Ohio growers. All present indications are that the market for potato chips as well as for other processed forms of potatoes will continue to expand rapidly. The know-how of Ohio growers for producing, storing and marketing to the chip processors is not yet being capitalized fully.

The method of marketing and the ability to supply the large buyers in Ohio through the Ohio Potato Growers Association is a favorable factor for Ohio growers but one that cannot be expected to improve greatly over time from the present level.

Ohio growers have an advantage in their ability to sell "off-grade" potatoes at the packing house or storage door. A correspondingly smaller part of the Ohio crop is unsalable than is true for distant competing areas. This location factor in part offsets the higher costs of producing potatoes in Ohio than in states such as Maine.

The seasonal price trends for Ohio potatoes indicates that there is sufficient storage of potatoes at the present time. Over the past six years, since price supports have been off, growers have had a loss on the average from storing after November 1. In the forseeable future, it appears that speculative profits from storage will be uncertain at best and nonexistent in the average season for any individual grower. In this event, storage should be considered more from its advantage in merchandising and marketing the potato crop than for the chances of price increases after the harvest season.

The list of disadvantages of Ohio growers is also imposing. Modern production and marketing methods favor large producers

and concentrated areas of production. As a result, Ohio potato production has been concentrated among fewer and larger growers. This trend will continue but the opportunities for larger producers in larger areas of production are more limited in Ohio than in the major competing areas. Problems of uniformity of grade and pack and efficiency in packing and selling are greater in Ohio as a result.

Ohio growers are at a disadvantage due to relatively low yields per acre. This disadvantage seems likely to continue. Although Ohio potato yields have increased percentagewise as much as those in Maine since Pre-War II, Maine growers had yields of 160 bushels per acre over those in Ohio in 1940 compared with about 190 bushels today. While yields are expected to continue to increase, the rate of increase in the next five to ten years is expected to be about the same as from 1949 to 1954. And it is expected that, as in the past, the production of potatoes will continue to move towards the areas with the higher and most rapidly increasing yields.

Trends in Ohio potato production will follow those established in recent years. For the grower who is efficient in production and marketing, the future looks bright.

R. L. Bere and M. E. Cravens [1]

## INTRODUCTION

Ohio's potato production is only about one-half what it was twenty years ago and only one-third of what it was fifty years ago. The importance of Ohio in total United States potato production has declined from about ninth to eighteenth among states during the past twenty-five years. At the same time other midwestern and midseason states have shown even greater declines while some of the leading states, such as Maine, Idaho and California have had considerable increases in production.

Between 1940 and 1944, the gross cash income from potatoes for Ohio growers averaged almost six million dollars or 1.2 percent of the total gross income from Ohio agriculture (Figure 1). In recent years, the gross cash income from potatoes has been around six million dollars, but has been only 0.6 percent of the total Ohio farm income.

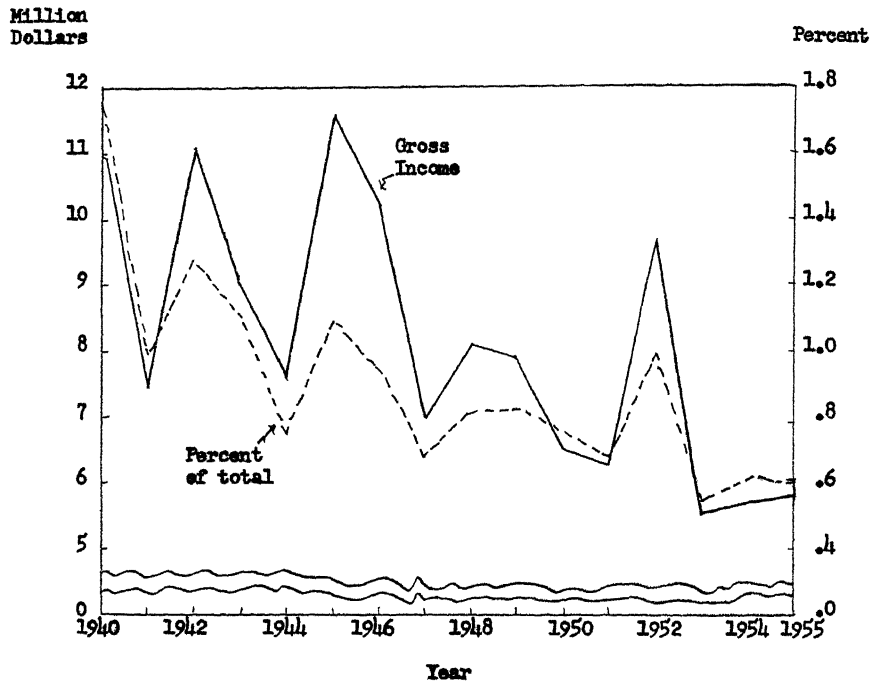
In the early 1930's potatoes were among the top six income producing commodities in almost one-fourth of the counties in Ohio. At the present time, there are no counties in the state in which potatoes consistently rank among the top six income producing agricultural products.

This report attempts to show some of the trends in the potato industry, their apparent causes and effects on Ohio's growers and to determine how Ohio growers can best adjust to them.

The sources of data used in this analysis were the Census reports of the United States Department of Commerce and various statistical reports published by the United States Department of Agriculture.

---

[1] Instructor and Professor, respectively, in the Department of Agricultural Economics.




Source: Reference 9

Figure 1: Gross Cash Income from Sale of Potatoes from Ohio Farms and Percentage Potatoes Make Up of Total Ohio Agricultural Gross Cash Income, 1940 to 1955.

## POTATO PRODUCTION

Potato production in the United States averaged 396 million bushels for the 10 year period 1947 to 1956. During the same 10 years, Ohio's average crop was slightly under 6 million bushels, varying from a high of 7,650,000 in 1950 to a low of 4,800,000 in 1952.

Until 1956, the production of potatoes was reported in three seasonal groups of states -- early, intermediate and late (Figure 2). The early crop was largely produced by 11 southern states in addition to California and Arizona. The intermediate crop was produced in a narrow band of seven states directly north of the early southern states. The late crop in which Ohio was included is largely produced in the northern part of the country and in the western states.

Since 1956 and going backward to 1949, the production of pota-

toes is being reported for six seasonal production groups with three area subgroups for the fall crop (Figure 2a).

Ohio's commercial potato production is concentrated largely in the Northeastern part of the state with scattered areas of heavy production in other parts of the state. The fall crop area in Ohio includes: Columbiana, Stark, Wayne, Wyandot, Logan, and Darke counties and all to the north of these. The late summer area includes all to the south of the above counties. (Table 1).

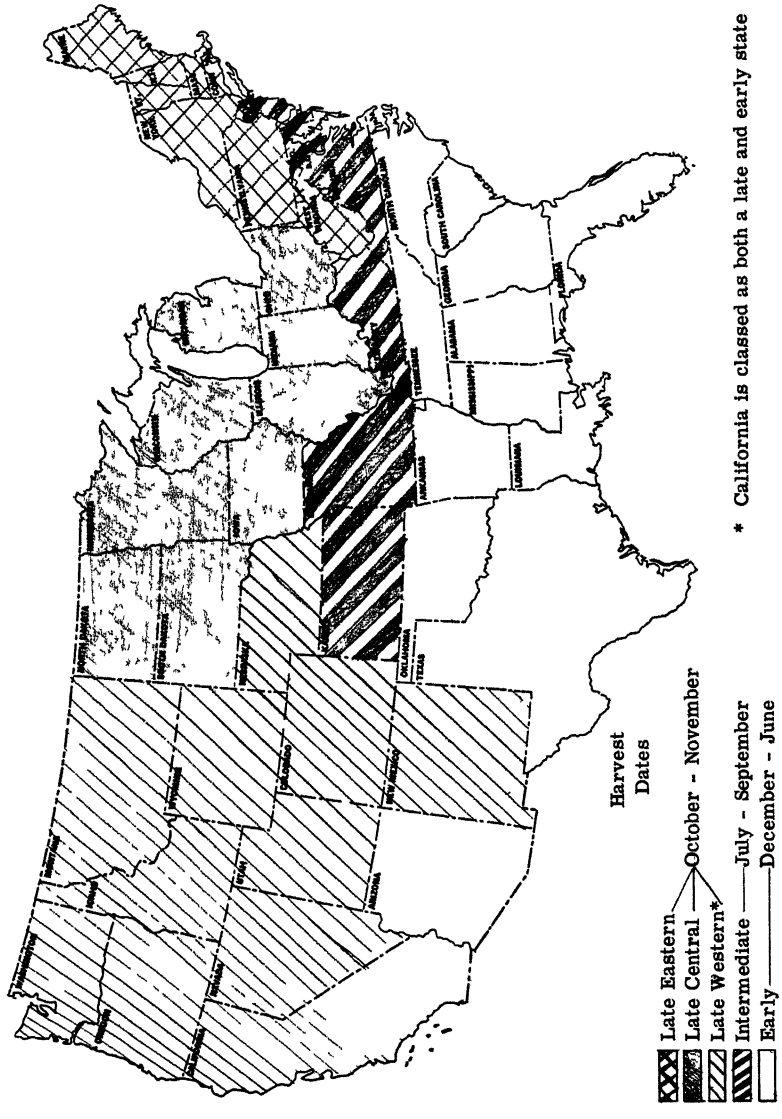
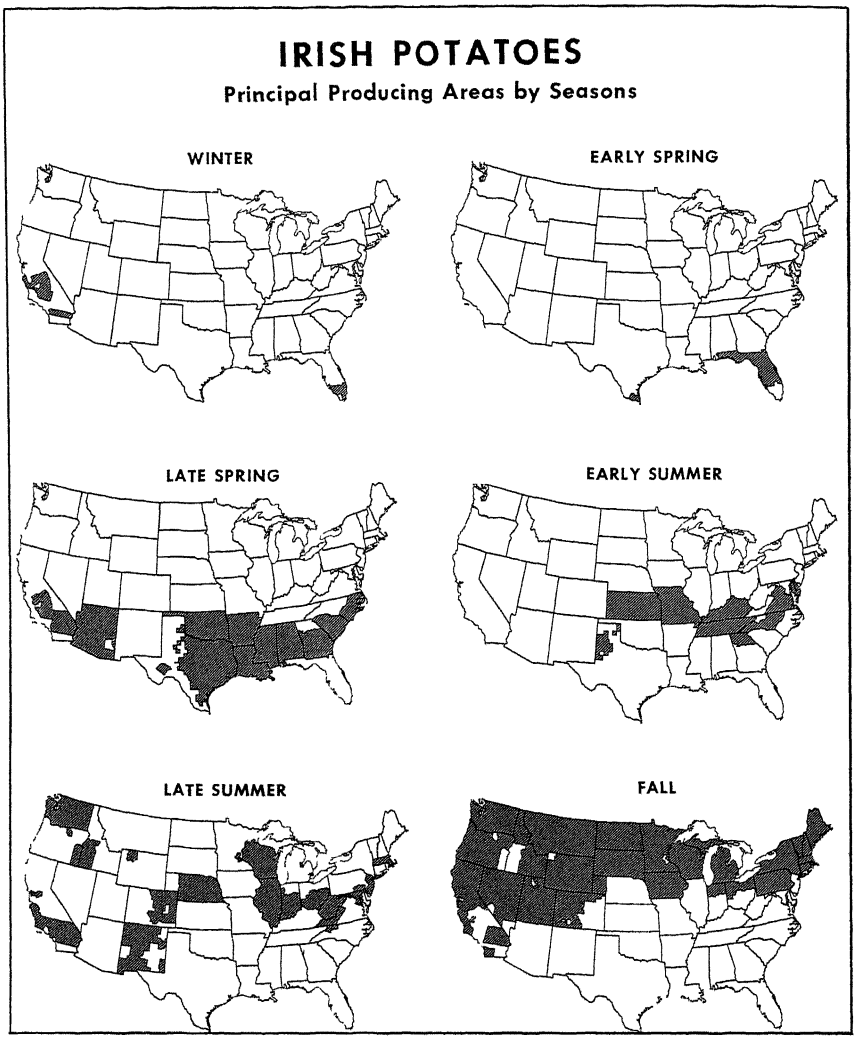



Figure 2: Season of Harvest for Irish Potatoes (classification until 1956)




Source: Reference 18

Figure 2a: Season of Harvest for Irish Potatoes (classification 1949 to Date)

| | |
|---|---|
| Winter: | January, February, March |
| Early Spring: | April 1 - May 15 |
| Late Spring: | May 16 - June 30 |
| Early Summer: | July 1 - August 15 |
| Late Summer: | August 16 - September 30 |
| Fall: | October, November, December |

## TABLE 1

| Year | Acreage | Production (1000 cwt) | Yield Per Acre (cwt) | Price Per Cwt. (dollars) | Value of Production (1000 dollars) |
|---|---|---|---|---|---|
| | | | Late Summer Crop | | |
| 1949 | 12,000 | 1,344 | 112 | $2.97 | $3,992 |
| 1950 | 11,000 | 1,540 | 140 | 2.47 | 3,804 |
| 1951 | 9,200 | 1,242 | 135 | 2.50 | 3,105 |
| 1952 | 8,400 | 1,050 | 125 | 5.25 | 5,512 |
| 1953 | 9,000 | 1,008 | 112 | 2.79 | 2,812 |
| 1954 | 8,700 | 1,148 | 132 | 3.18 | 3,651 |
| 1955 | 8,200 | 1,132 | 138 | 2.01 | 2,275 |
| 1956 | 7,200 | 1,044 | 145 | | |
| | | | Fall Crop | | |
| 1949 | 19,000 | 2,508 | 132 | $2.55 | 6,395 |
| 1950 | 19,000 | 3,040 | 160 | 1.97 | 4,854 |
| 1951 | 15,500 | 2,248 | 145 | 3.10 | 6,969 |
| 1952 | 15,200 | 2,006 | 132 | 4.61 | 9,248 |
| 1953 | 15,500 | 2,015 | 130 | 2.25 | 4,534 |
| 1954 | 15,000 | 2,430 | 162 | 2.56 | 6,221 |
| 1955 | 14,500 | 2,248 | 155 | 2.07 | 4,653 |
| 1956 | 12,500 | 1,938 | 155 | | |

Source: Reference 17
The Potato Industry in Ohio, Late Summer and Fall Crops, 1949 - 1956

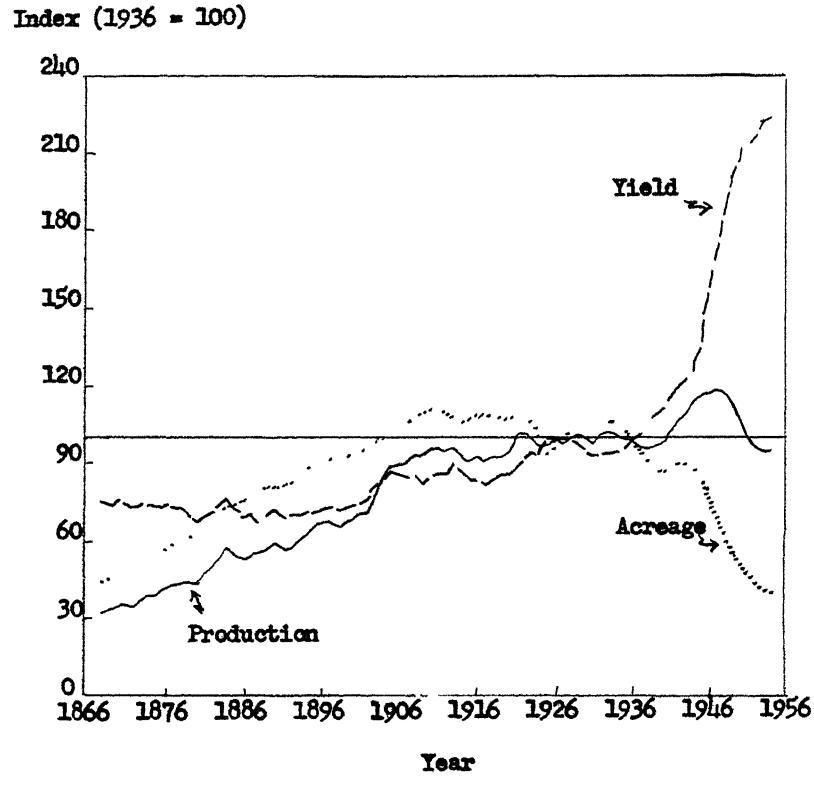
### Trends in Potato Production

Potato production in the United States has been increasing steadily since 1866 although the major part of this increase occurred prior to 1910 (Figure 3). The greatest increase since 1910 occurred in the late western and in the early states. Production increased slightly in the late eastern states but declined in the late central and the intermediate states.

In 1910 the north central states (including Ohio) accounted for over 40 percent of the total United States potato production, but at the present time these states account for less than 20 percent (Figure 4). Production in western states increased from 13 percent of the total in 1910 to over 25 percent at the present time, while the relative importance of the late eastern states has remained fairly stable at 30 percent of the total United States crop. The intermediate states produce only about five percent of the total now as compared with 10 percent in 1910. The greatest per-

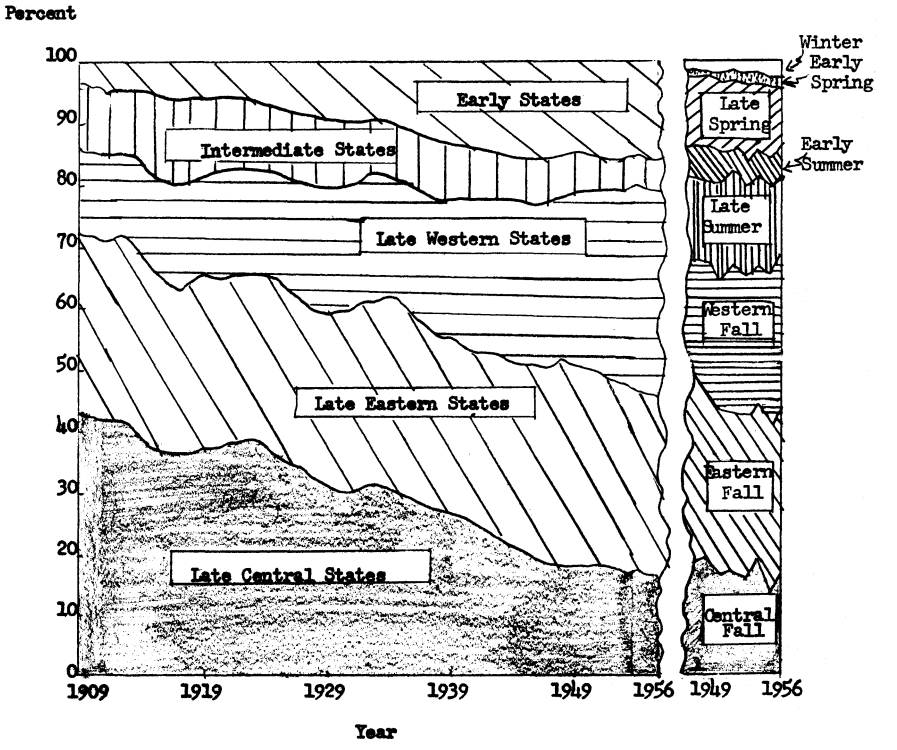
centage of increase in importance occurred in the early states which now produce about 15 percent of the crop as compared with five percent in 1910. The largest part of this increase occurred in California.

Ohio's potato production declined from an index high of 125 in 1910 (1934 - 38 = 100) to only 40 at the present time (Figure 5). Production in New York, one of Ohio's nearest competitors, has remained fairly stable over the last 50 years while production in Michigan has followed much the same trend as Ohio. Production in two of the leading potato states, Maine and Idaho, has increased considerably since 1910. Production in Idaho is about 9 times what it was in 1910 while that in Maine is almost three times what it was in 1910.




Source: Reference 8 and 16

Figure 3: Index of Potato Acreage, Yield and Production, United States 4 Year Moving Average, 1866 to 1956



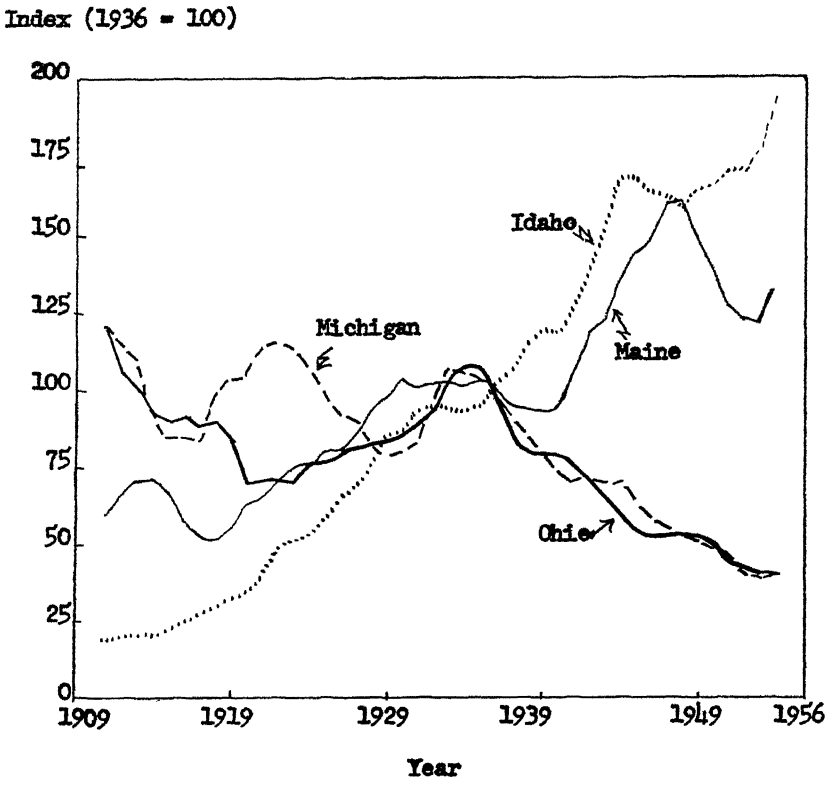

Source: Reference 8 and 16 and 17

Figure 4: Percentage Distribution of United States Potato Production, By Areas 4 Year Moving Average, 1909 to 1956

Note: The seasonal grouping of states was further divided in 1949 as is shown in Figure 2a.

Maine and Idaho produced over 25 percent of all potatoes in 1954 as compared with less than 10 percent around 1910, while Ohio, New York and Michigan at the present time produce only 15 percent of the total as compared with almost 25 percent 45 years ago.

In general, the production of potatoes has declined in importance in the areas where low yields were obtained and increased in those areas obtaining high and increasing yields. A comparison of the yields and trends in proportion of production in both the old and new classifications of production in Figures 4 and 8 shows this tendency. The early summer and the central fall harvest areas have the lowest yields and the greatest decrease in importance of any of the areas. The eastern and western fall crop areas have the highest yields and are increasing in importance.




Source: Reference 8 and 16
Figure 5: Index of Potato Production, Selected States, 4 Year Moving Average, 1909 to 1956

## Trends in Potato Acreage

Potato acreage in the United States increased rapidly from 1866 to 1910, remained fairly stable from 1910 to the early 1930's and then rapidly declined. The relative trend in acreage has been the same as the relative trend in production as is shown in Figures 4 and 5. At the present time, only about one-half as many acres are planted to potatoes as were planted during 1934 to 1938. The greatest decline in acreage occurred in the late central states where acreage is only one-third what it was from 1934 to 1938. All areas, however, have shown appreciable declines in acreage since 1944.

In 1910, over 40 percent of the country's potato acreage was planted in the late central states, but by 1953 only 25 percent of

the acreage was in this group of states. The late eastern states have maintained a fairly stable proportion of the nation's acreage over the 40 year period. The largest relative increase in acreage has been in the late western states and in the early states (including Kern County, California) which together plant over 40 percent of the country's acreage now compared with only 20 percent in 1910.

The acreage in Ohio has declined at a much faster rate than that in the country as a whole. Ohio accounts for less than two percent of the total acreage in potatoes in the United States at the present time as compared with four percent prior to World War II.

The greatest increase in late potato acreage has occurred in Idaho and Maine.

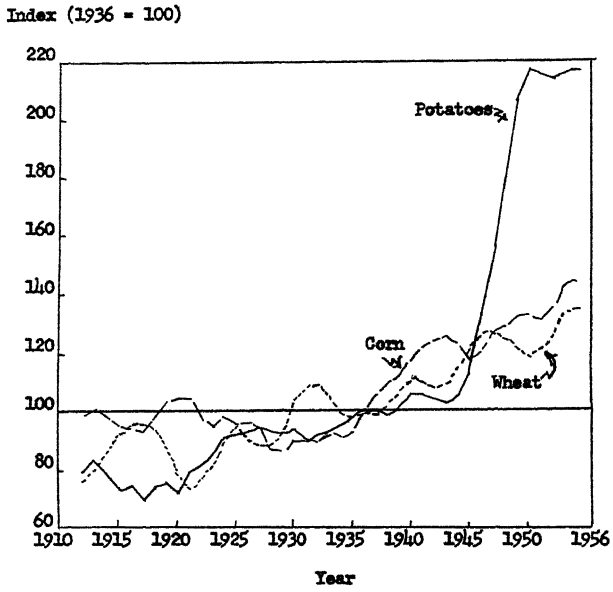
## Trends in Yields

Potatoes, since 1940, have shown the greatest increase in yields of any major crop in the United States and in Ohio (Figure 6). These increases have been due both to improved varieties and production techniques. Shifts in areas of production from the low yielding production areas to the high yielding areas, i. e., from central states to Main, Idaho and California and from low yielding counties to high yielding counties in all states, have tended to increase average yields.

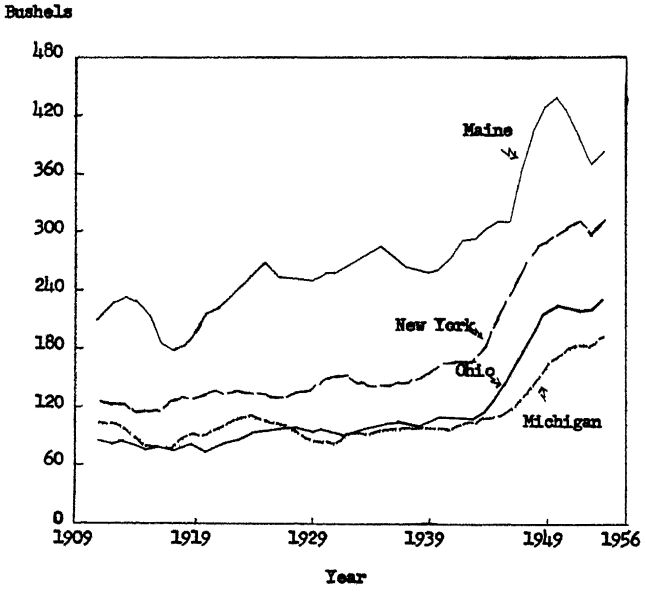
Yields of potatoes in Ohio increased from approximately 110 bushels in 1940 to over 250 at the present time, while yields in Michigan increased from about 100 bushels in 1940 to about 250 bushels at the present time (Figure 7). Yields in two of the leading states, Maine and Idaho, increased from 260 bushels and 230 bushels respectively in 1940 to about 400 and 300 bushels at the present time.

The late eastern and western groups of states produce around 300 bushels of potatoes per acre now, compared with 200 and 175 bushels per acre in 1940 (Figure 8). Yields in the late central states (which includes Ohio) have increased in the last 16 years from about 95 bushels to about 185 bushels.

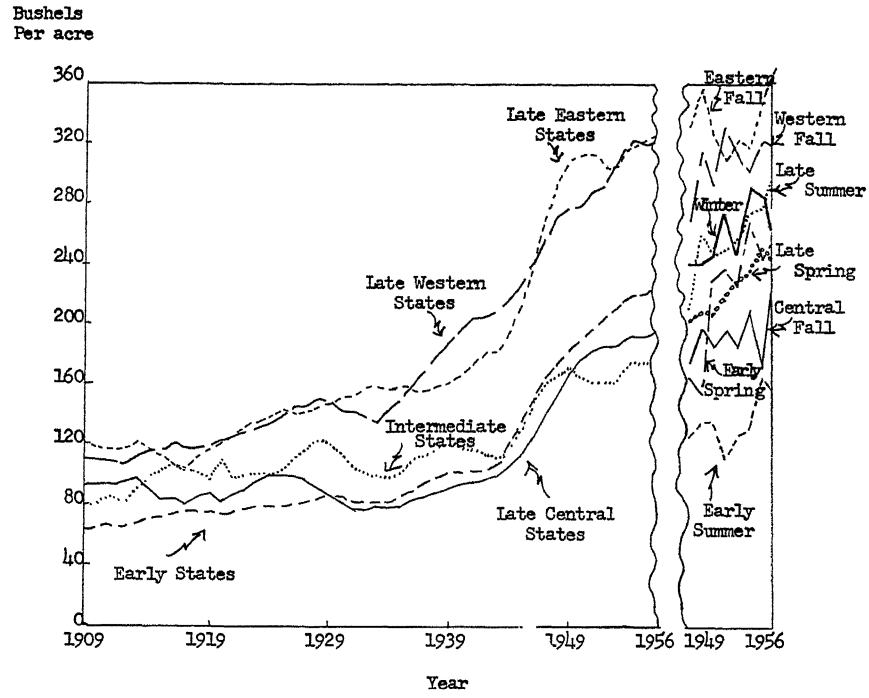
The increases in yields have generally given the high yielding areas an even greater advantage than they had in 1940. For instance yields in Maine in 1940 were about 160 bushels per acre above those in Michigan compared with a 200 bushel advantage in 1955. Yields in Ohio have increased less than those in Maine but more than those in Michigan (Figure 7).




Source: Reference 14 and 15
Figure 6: Index of Yields of Selected Ohio Crops, 4 Year Moving Average, 1910 to 1956




Source: Reference 8 and 16
Figure 7: Yield of Potatoes in Selected States, 4 Year Moving Average, 1909 to 1956

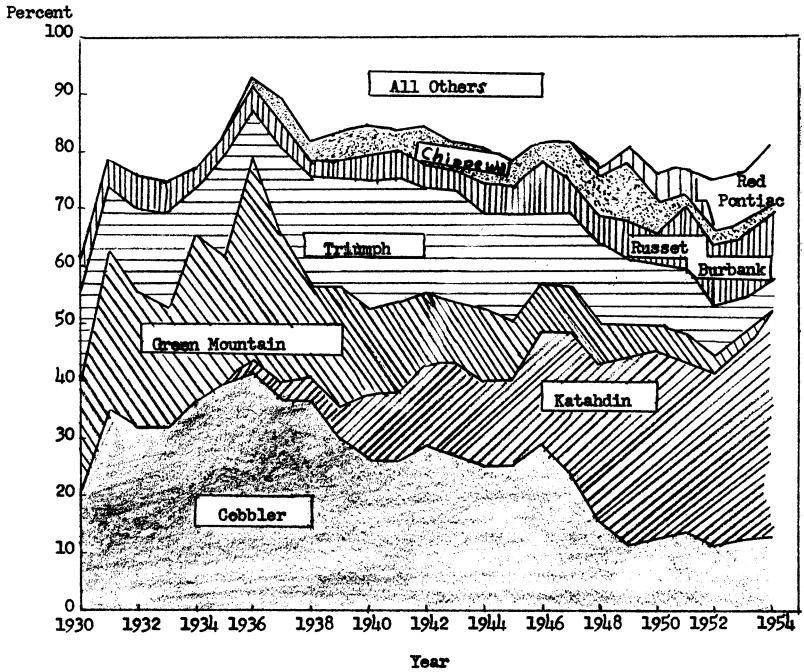



Source: Reference 8, 16 and 17
Figure 8: Yields of Potatoes in United States, By Seasonal Groups, 4 Year Moving Average, 1909 to 1956

## Production of Certified Seed

One reason for the increase in yields of potatoes has been the increased use of certified seed. In the 1930's approximately eight million bushels of certified seed potatoes were produced and around three and one-half million acres planted (Figure 9). In the 1950's over 45 million bushels of certified seed potatoes were produced for planting on less than one and one-half million acres. There were in the 1930's only about three bushels of certified seed potatoes available for each acre planted, compared with 30 bushels of certified seed available for each acre of potatoes planted at the present time.

A considerable percentage of the certified seed produced is actually consumed at the dinner table. However, if half of the certified seed went into table stock, this would still leave 15 bushels per acre available for planting, or over five times the amount available 20 years ago.




Source: Reference 1
Figure 9: Production of Certified Seed Potatoes, By Variety, United States, 1930 to 1954

In the 1930's, over one-third of the certified seed produced was of the Cobbler variety. At the present time, this variety accounts for only about 10 percent of the total. The biggest increase has occurred in the production of the Katahdin variety, introduced in the middle 1930's and now represents over one-third of the total today. The Cobbler and Katahdin varieties are the most important grown in Ohio. 2/

Numerous new varieties have been introduced since the war. The most popular of these is the Red Pontiac, which comprised about 10 percent of the total certified seed produced in the United States in 1954. Other varieties introduced mostly since the war

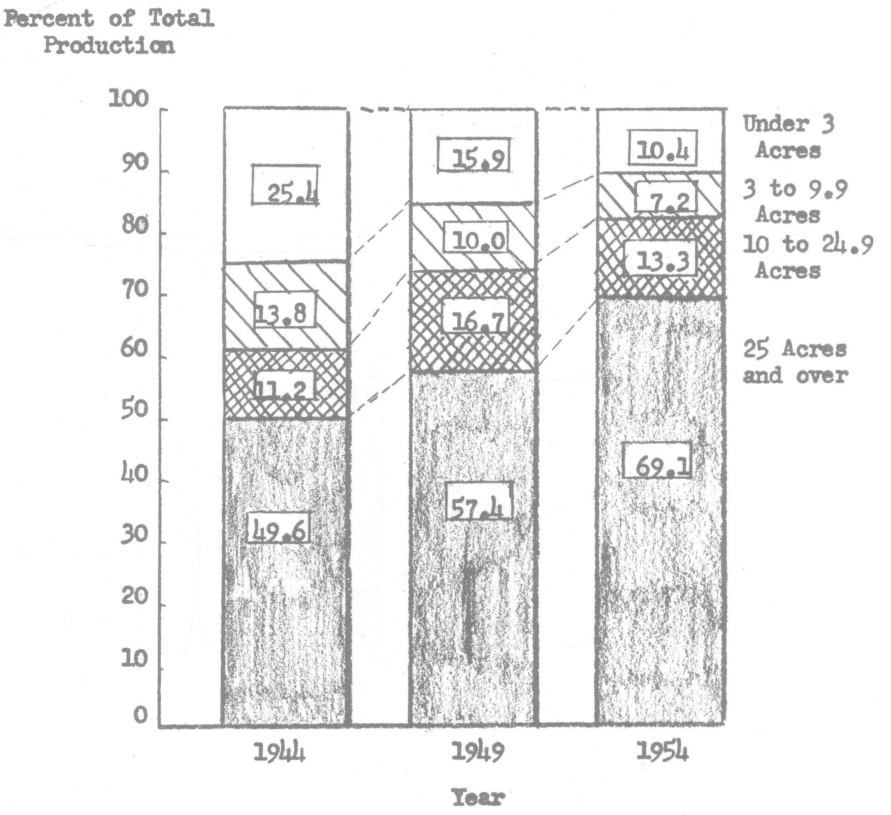
2/ In 1957, the percentage of each variety of certified seed potatoes handled by the Ohio Farm Bureau Cooperative Association were as follows: Katahdin 61.0; Cobblers 21.0; Sebago 4.5; Kennebec 4.0; Russet Rural 3.5; Chippewa 2.5; and Other 3.5.

have been Kennebec, Satapa, Progress, Russet Sebago, Mohawk, Essex, Ontario and Teton.

## Size of Operation

Two hundred growers produced almost 70 percent of the potatoes in Ohio in 1954. These growers had at least 25 acres of potatoes. In 1944, growers planting 25 acres or more produced 50 percent of the potatoes grown in the state. The concentration of Ohio's potato industry has been a rapid rate during the past 10 years and indications are that it will continue.

In 1944, 40 percent of the potatoes produced in Ohio were grown by growers with less than 10 acres of potatoes (Figure 10). By 1945, growers planting less than 10 acres produced less than 18 percent of the total crop.

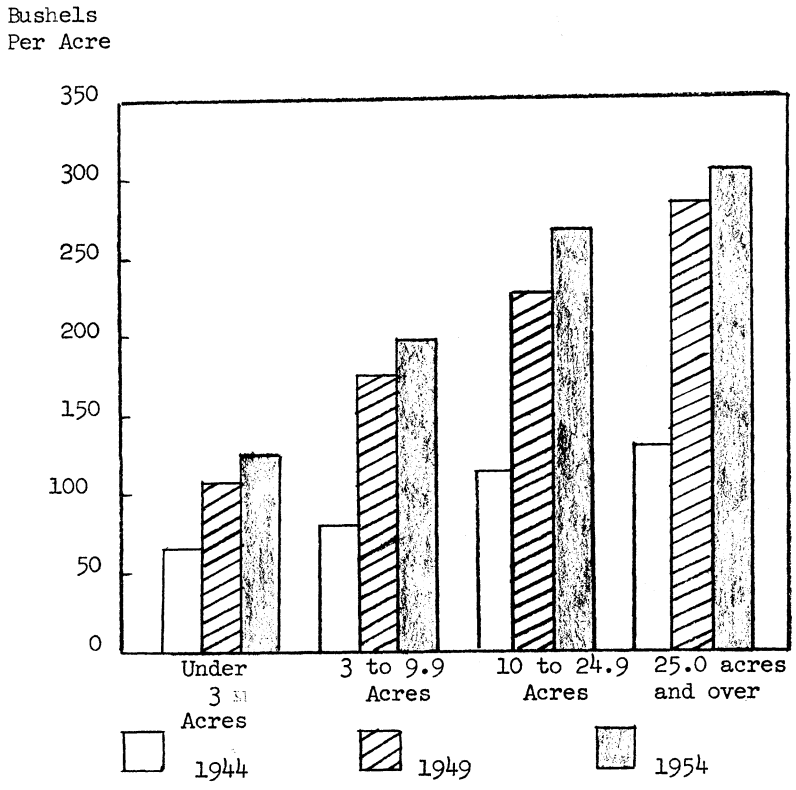



Source: Reference 4 and 5

Figure 10: Percentage of Potatoes Produced By Growers With Indicated Number Of Acres, Ohio 1944, 1949 and 1954

There were approximately 400 growers in the state in 1954 with 10 acres or more of potatoes compared with around 700 growers in 1944. However, production by these 400 growers in 1954 was around 4-1/2 million bushels, about 1 million more bushels than the 700 growers produced in 1944. These 400 growers produce about 85 percent of the potatoes grown in the state today.

From 1944 to 1954, the average yield of potatoes in Ohio increased from around 100 bushels of potatoes to over 250 bushels per acre. Growers with larger acreages had the greater yield increases (Figure 11). In this ten year period, the yields among growers with over 25 acres of potatoes increased by 175 bushels per acre, while yields among growers with less than 3 acres of potatoes increased only 60 bushels per acre. The greatest part of this increase occurred in the first 5 years, from 1944 to 1949. Of the 175 bushel increase in the 25 acre or more group of grow-




Source: Reference 4 and 5
Figure 11: Yields Per Acre of Potatoes, By Size of Operations, Ohio, 1944, 1949 and 1954

ers, 155 bushels of it occurred between 1944 and 1949 while only 20 bushels occurred between 1949 and 1954.

Even with the considerable increase in importance of the larger potato grower in Ohio from 1944 to 1954, there are still a considerable number of general farms where potatoes are produced in the farm garden or in small plots. In 1954, 98 percent of the Ohio farms reporting potatoes had less than 3 acres of potatoes. This compares with 33 percent in Idaho, 60 percent in California, 69 percent in Maine and 87 percent in Michigan and New York.

The proportion of total production by the commercial growers (those having 10 acres or more) is much greater in northeast and west central areas than in southern Ohio. In 1950, 89 percent of the potatoes in the west central part of the state were produced by farms having 10 acres or more. In the southern part of the state only about one-third of the potatoes produced in that area are grown on farms having 10 acres or more of potatoes.

## POTATO PRICE

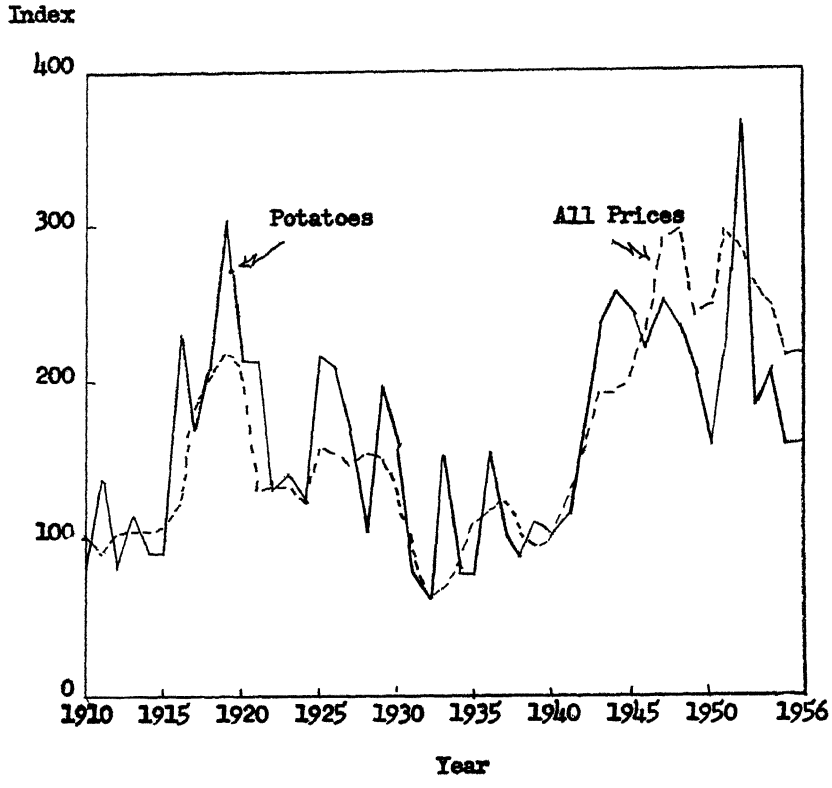
The index of farm price of potatoes in Ohio has fluctuated rather closely around the level of prices received by Ohio farmers for all farm products (Figure 12). However, in the last 10 years, the price of potatoes has declined relative to those of other farm products. Year to year variations in potato prices have largely been a result of the variation in the size of the total crop.

Due to the nature of the demand for potatoes, the price of potatoes varies more with changes in supply than does the price of most other food products. Consumers change the amounts they will consume relatively little and only when the price changes considerably. Thus, a large United States crop will result in a considerable price decline and a small crop will result in a substantial price rise.

Government price supports tend to cloud the picture somewhat from the standpoint of price analysis, but the inelasticity of demand for potatoes still is evident during most of the support years. Because of the complexity of the problem any detailed analysis of Ohio potato price movements will be made in a later study.

### Trends in Ohio Potato Prices

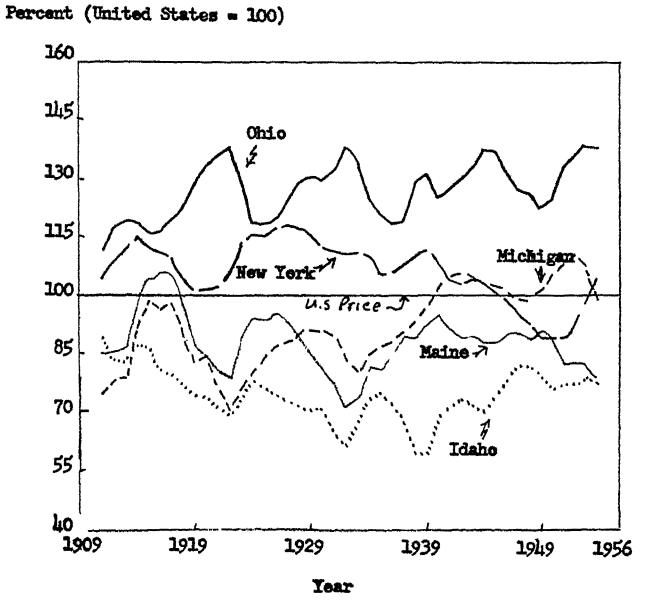
Ohio prices follow the same general trend as the United States average prices. However, farm prices of Ohio potatoes for the last 45 years have been 20 to 40 percent above the average United




Source: Reference 1, 2, 8, and 16
Figure 12: Comparison of Ohio Farm Potato Price With all Prices Received By Ohio Farmers, 1910 to 1956

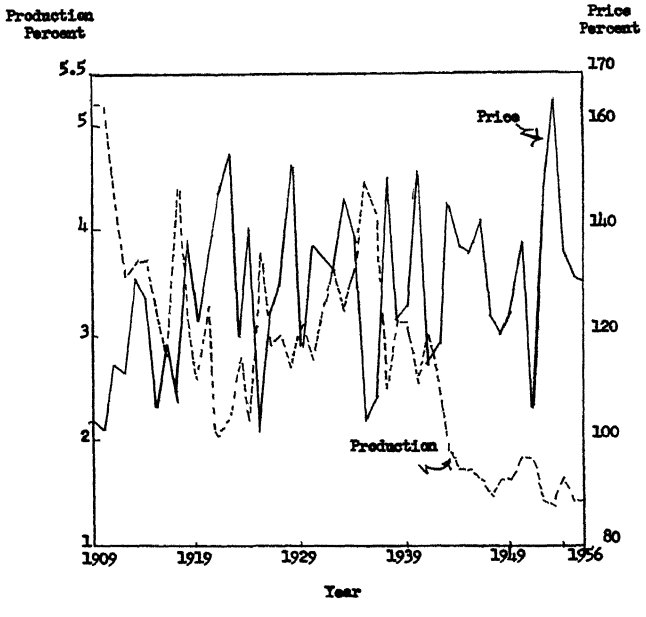
States potato prices (Figure 13). This differential in prices follows a 10 - 12 year cycle. At the present time, the price differential appears to be approaching a peak with Ohio prices relatively favorable compared to United States prices. If the cycle follows past patterns, Ohio prices will decline relative to the national price for the next few years.

Prior to 1940 when Ohio produced a larger percent of the total crop, the percent that Ohio's price was above the national average, declined (Figure 14). However, since 1940, Ohio's production has declined to only about 1-1/2 percent of the total and this has had little effect on the relative Ohio price.



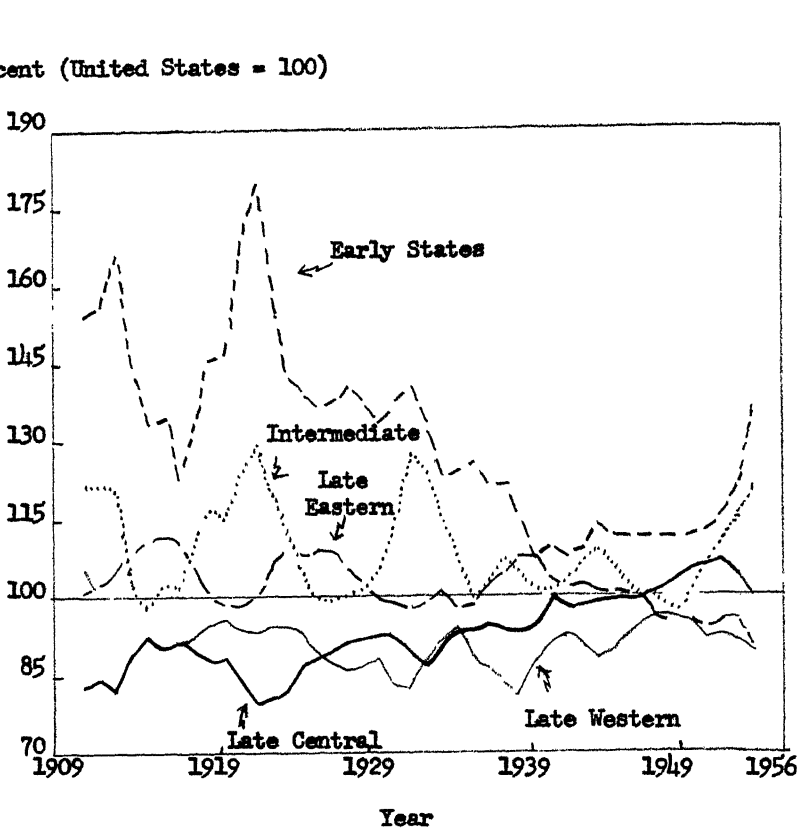

Source: Reference 2 and 16

Figure 13: Farm Price of Potatoes in Selected States as a Percent of United States Price, 4 Year Moving Average, 1909 to 1956




Source: Reference 1, 2, and 16

Figure 14: Ohio Potato Production and Price as a Percent of United States Production and Price, 1909 to 1956




Source: Reference 2 and 16

Figure 15: Price of Potatoes in Selected Areas as a Percent of United States Price, 4 Year Moving Average, 1909 to 1956

## Regional Price Trends

The most noticeable trend in the farm prices of potatoes has been the lessening of the differences in prices among areas of production and between these areas and the United States average (Figure 15). At the present time farm prices vary from about 5 percent below the United States average in the late western states to about 25 percent above in the early states. Thirty years ago the variation among areas was from about 20 percent below to as much as 80 percent above the United States average.

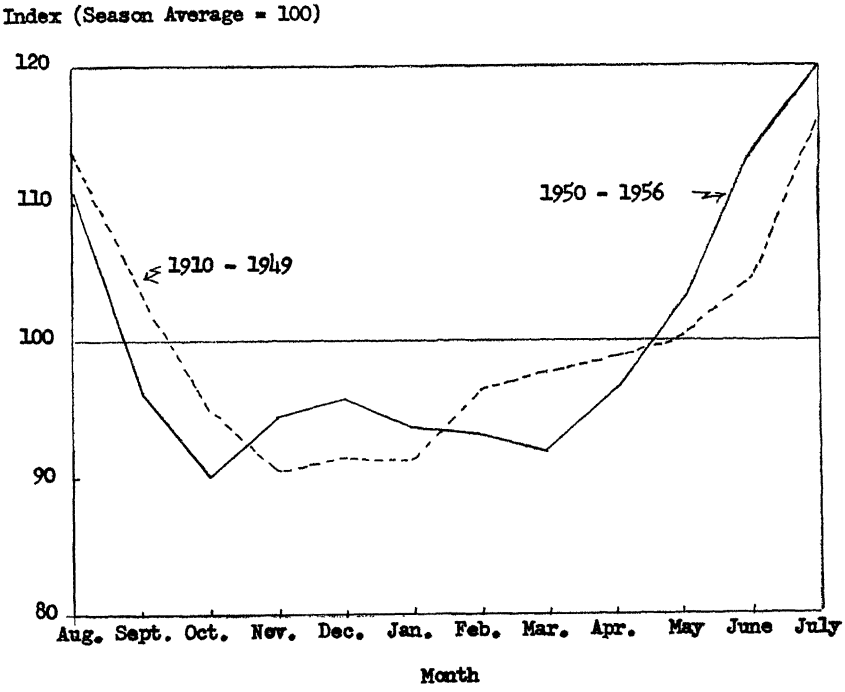
Potato prices in the late western and central states have been most consistently below the national average. At the present time, prices in the late central states are slightly above the national price. Prices in the late central states have shown consistent up-

ward trend since about 1922, from about 80 percent of the United States average price to slightly above the United States average today. In the early states the farm price dropped from 170 percent of the national average in the early 1920's to about 110 percent in the early 1950's and 125 percent at the present time.

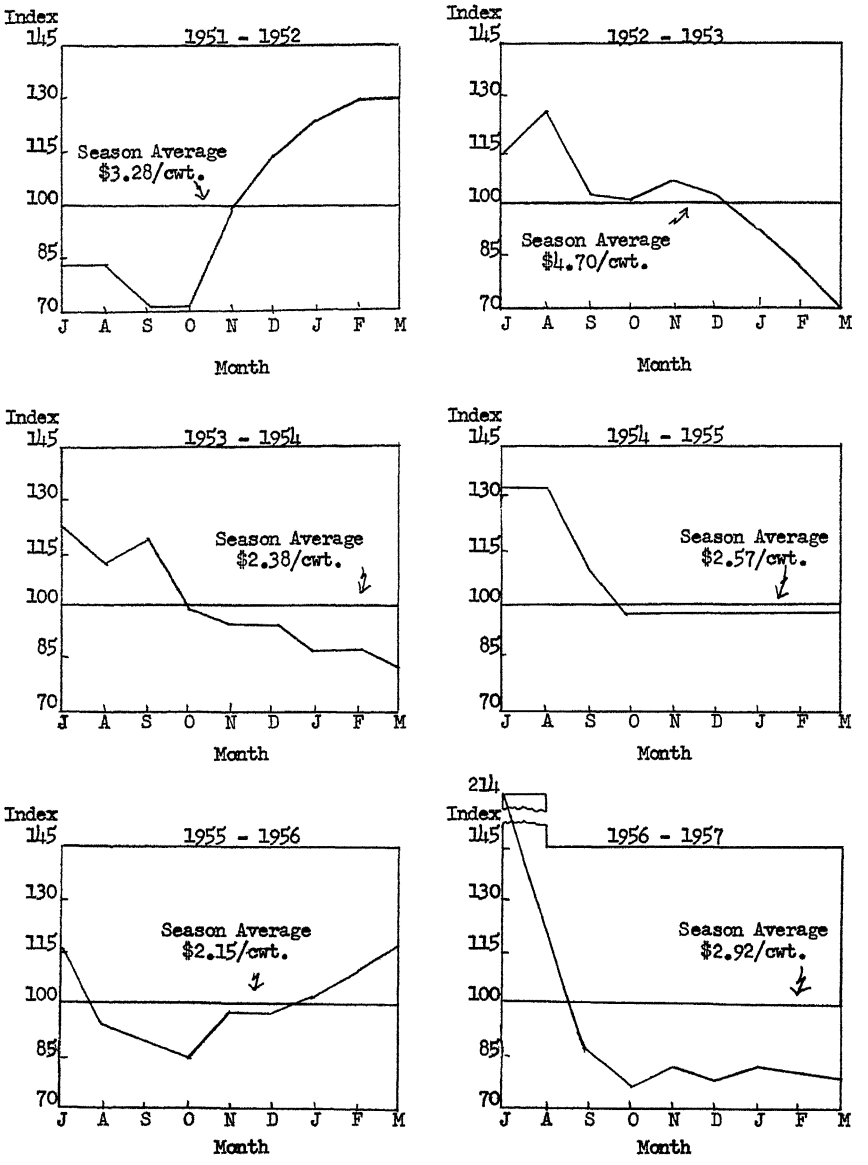
Prices in Idaho are about 80 percent of the United States average as compared with 65 percent 20 years ago (Figure 13). Growers in Maine receive about 85 percent of the country's average farm price per bushel. In the last 20 years, potato prices in Michigan have risen from about 90 to about 110 percent of the average while prices in New York have declined from 110 percent to about 90 percent of the United States average farm potato price.

## Ohio Seasonal Price Trend

There has been relatively little change in the average seasonal pattern of the farm price of Ohio potatoes since 1910 (Figure 16). Prices of Ohio potatoes were normally highest in June, July, and August when few Ohio potatoes were marketed. The lowest farm




Source: Reference 14 and 15
Figure 16: Seasonal Index of Potato Prices, Ohio 1910 to 1949 and 1950 to 1956




Source: Reference 14 and 15

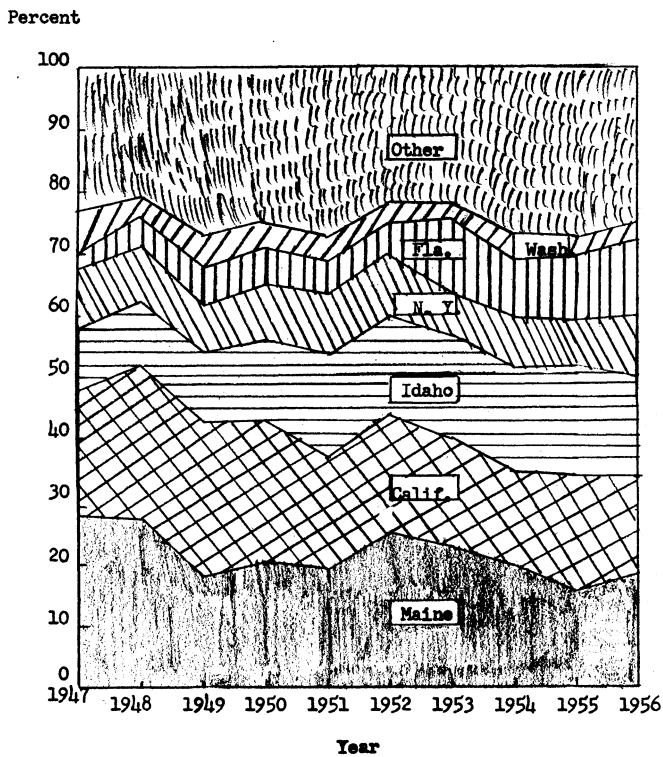
Figure 17: Seasonal Variation of Ohio Potato Prices, Annually, 1950 to 1956

prices for Ohio potatoes were during the period of heavy marketing from October through February. There was very little rise in price during these five months. Individual years did not follow the same pattern (Figure 17).

During this six year period the increases in the price received for potatoes throughout the marketing period would not have been enough to pay the cost of storage. Storage of potatoes, however, speeds up the harvesting operation and is a method of improving potato merchandising. Storage is a vital part of orderly marketing of Ohio's potato crop. The Ohio potato crop is mostly marketed by the end of March in a normal year.

## COMPETITION FROM OTHER STATES

Over one-half of the potatoes shipped in from other states and unloaded on the Cleveland market are from the three leading potato states; Maine, Idaho and California (Figure 18). California grow-




Source: Reference 3 and 20

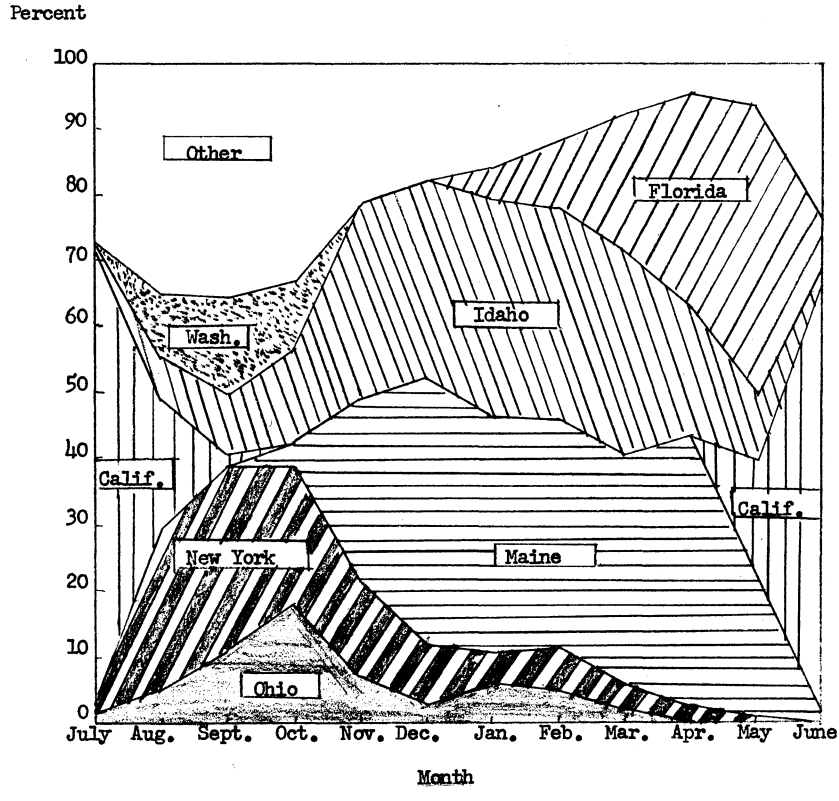
Figure 18: Percentage Distribution of Out of State Potatoes Unloaded at Cleveland, By Source of Supply, Yearly, 1947 to 1956

ers market potatoes in Ohio largely during June and July which is just prior to Ohio's marketing season. Ohio's competition from October through March comes largely from Maine and Idaho and from New York, Pennsylvania and Michigan (Figure 19).

The real importance of Ohio's potatoes on the Cleveland market is not fully indicated in either Figure 18 or 19. Many Ohio potatoes go directly to stores or consumers and are not reported. Of course, a smaller proportion of the potatoes from other states going directly to retail stores or to consumers are not recorded.

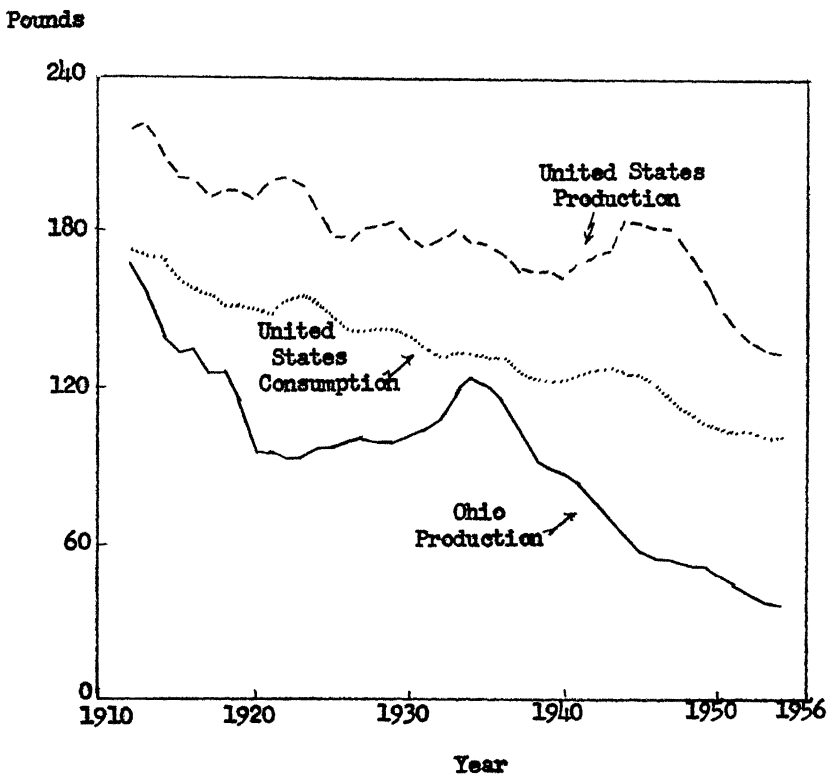
## CONSUMPTION AND UTILIZATION

Consumption for potatoes has declined from a high of about 170 pounds per person per year in 1910, to about 100 pounds at the present time (Figure 20). Per capita production of potatoes in the




Source: Reference 3 and 20

Figure 19: Percentage Distribution of Potatoes Unloaded at Cleveland, By Source of Supply, Monthly, 1955 and 1956

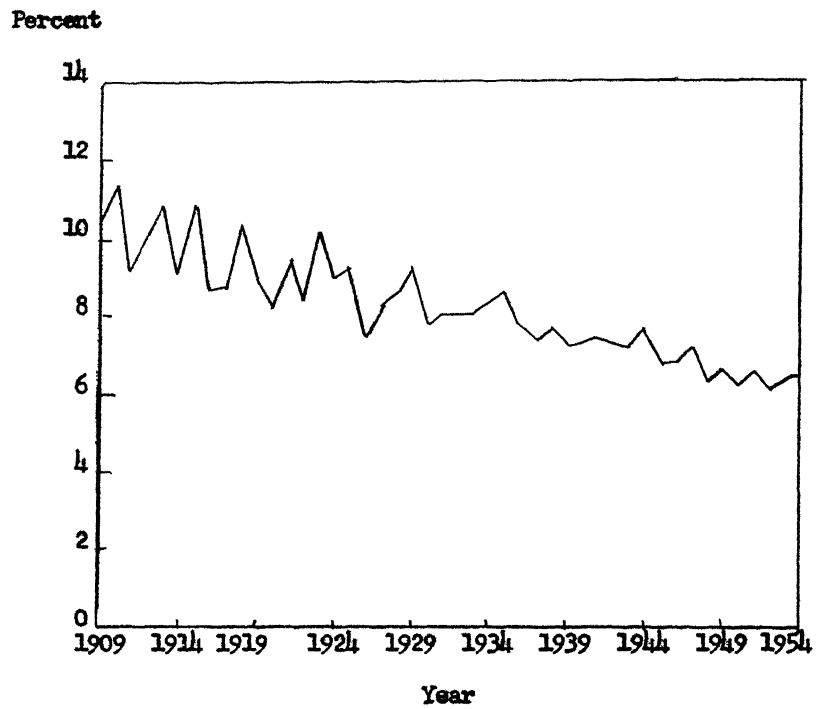



Source: Reference 6, 12 and 16
Figure 20: Production and Consumption of Potatoes Per Capita in Ohio and United States, 4 Year Moving Average, 1910 to 1956

United States had declined from around 220 pounds in 1910 to 150 pounds at the present time. The 45 or 50 pounds difference between production and consumption per capita is accounted for by seed stock, exports, shrinkage, waste and livestock feed.

In 1910 potatoes accounted for about 11 percent of the total weight of all food consumed in the United States. Today potatoes make up only 6 percent of the total (Figure 21). Potatoes supply, on the average, only about half as large a percentage of our nutrient requirements today as they did in 1910 (Table 2).

Ohio produces about 40 pounds per person now compared with around 150 pounds in 1910 (Figure 20). Assuming Ohio's population consumes potatoes at about the national average rate, the state produces about one-third of the potatoes consumed by its population




Source: Reference 6 and 12
Figure 21: Percentage of Total Weight of Food Consumed Made Up by Potatoes, United States, 1909 to 1954

today compared with about two-thirds in 1910. This means that Ohio customers consume approximately 60 pounds of out-of-state potatoes per person today compared with around 20 pounds in the mid 1930's.

About 75 percent of Ohio's potatoes are sold off the farm where they are produced (Figure 22). This compares with approximately 50 percent prior to World War II. There are several reasons for this change. In the first place, many general livestock or grain farmers have ceased to raise potatoes for their own use. Secondly, the trend has been towards larger commercial potato farms with a decrease in the number of commercial potato growers. There has also been considerable reduction in the amount of home grown potatoes used for seed in Ohio. About 2 percent of the crop is saved for seed now, compared with about 10 percent prior to 1940. Larger growers do not use their own potatoes for seed.

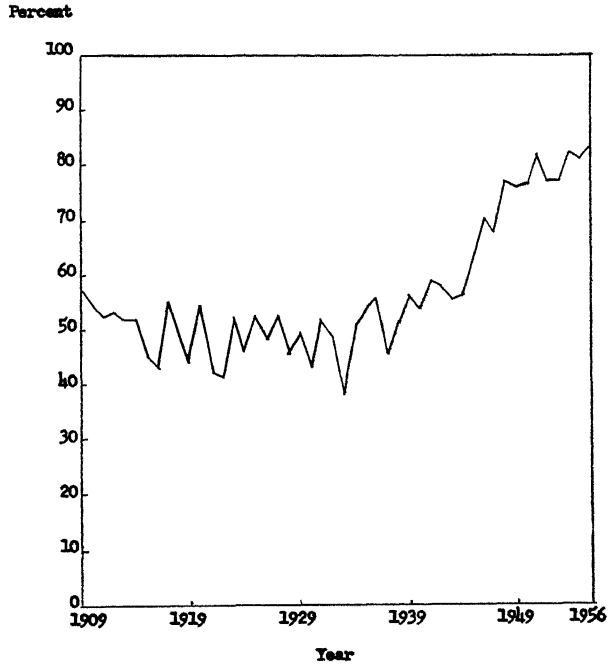
Slightly over 5 percent of Ohio's crop is lost due to shrinkage

## TABLE 2

| Food Group | 1909-13 | 1925-29 | 1935-39 | 1942-45 | 1947-49 | 1955 |
|---|---|---|---|---|---|---|
| | % | % | % | % | % | % |
| Food Energy | 5.2% | 4.2% | 4.0% | 3.8% | 3.3% | 3.0% |
| Protein | 4.0 | 3.5 | 3.2 | 2.9 | 2.6 | 2.4 |
| Carbohydrates | 8.4 | 7.0 | 6.8 | 6.9 | 6.1 | 5.7 |
| Iron | 9.4 | 8.0 | 7.3 | 5.9 | 5.1 | 4.7 |
| Vitamin A | 27.3 | 21.1 | 19.5 | 16.4 | 11.6 | 8.7 |
| Thiamine | 13.0 | 11.0 | 10.6 | 7.4 | 6.7 | 6.2 |
| Niacin | 12.8 | 11.0 | 10.1 | 7.9 | 7.0 | 6.2 |
| Folic Acid | 10.6 | 8.4 | 7.6 | 6.6 | 6.1 | 5.2 |
| Ascorbic Acid | 34.4 | 26.0 | 22.0 | 19.4 | 17.6 | 16.2 |

Source: References 6 and 12

Percentage Potatoes and Sweet Potatoes Contribute to Total Nutrients Supplied by Major Foods, United States, Selected Periods, 1909 to 1955




Source: Reference 1 and 16

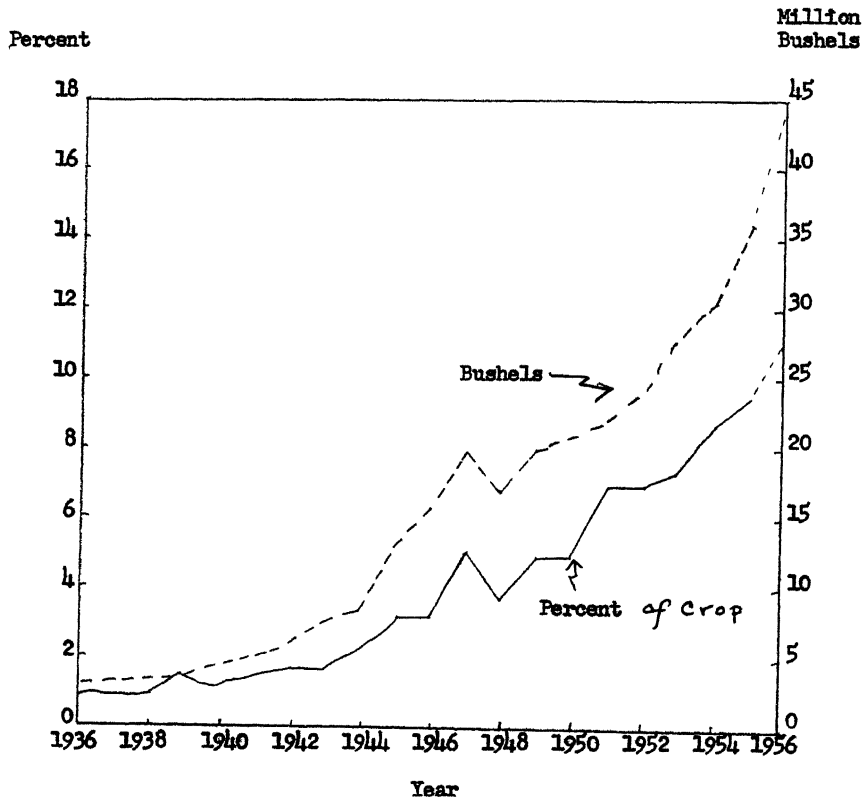
Figure 22: Percent of Ohio's Potato Crop Sold Off Farm Where Produced, 1909 to 1956

and other causes after harvest. This has not changed materially for the past 45 years.

A major development during the past 20 years was the increased use of potatoes in potato chips (Figure 23). No statistics are published on this for Ohio, but for the United States as a whole, over 40 million bushels of potatoes or about 10 percent of the crop were processed into potato chips in 1954. This compares with around 3 million or 1 percent of the crop in 1936. A recent survey of Ohio potato growers indicated that approximately 40 percent of the Ohio potatoes sold off farms are being processed into chips.

### Income and Consumption Characteristics

The highest rate of potato consumption was by families in the $3,000 to $7,000 income range. Families with incomes of over

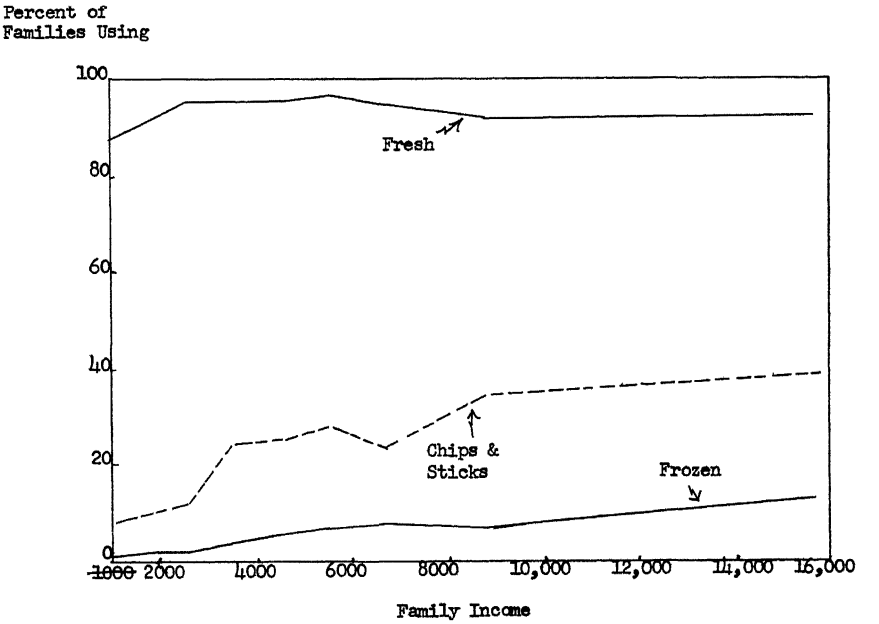



Source: Reference 13 and 19

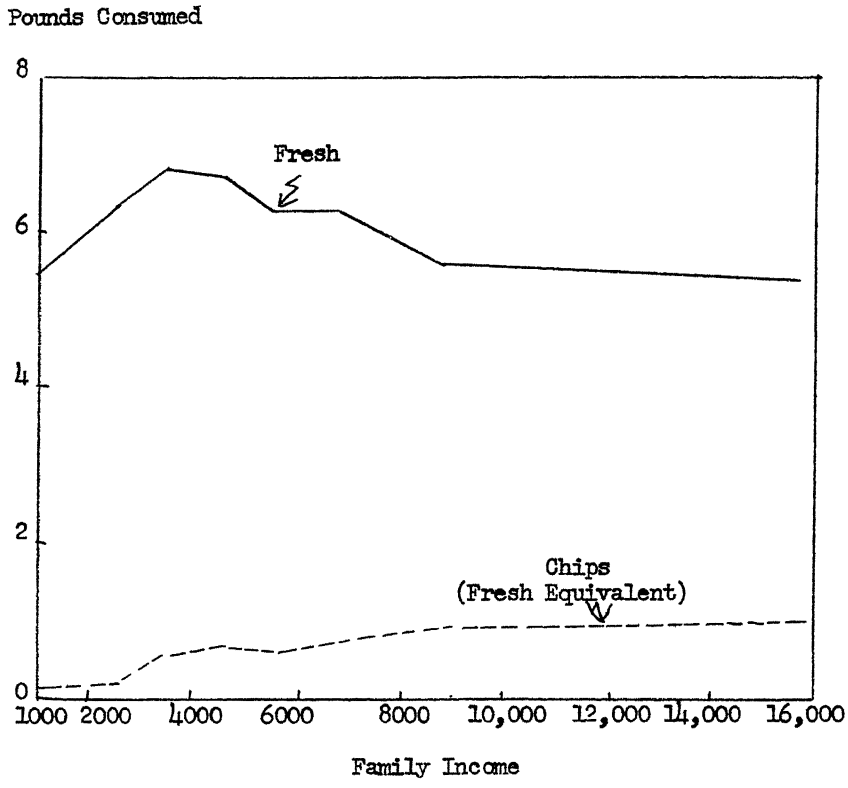
Figure 23: Number of Bushels and Percent of Total Crop of Potatoes Processed into Potato Chips, United States, 1936 to 1955

$8,000 per year eat almost 20 percent fewer fresh potatoes than do families earning between $4,000 and $5,000 per year (Figure 24). The value of potatoes consumed declined less than did quantity in families with incomes above $8,000. For potato chips, the relation between income and consumption is just the opposite. Families in the $8,000 or higher income brackets eat approximately 40 percent more potato chips than families in the $4,000 to $5,000 yearly income group. Other forms of processed potatoes show a similar pattern of consumption varying with income.

Practically all the families in every income group used some fresh potatoes during the sample week (Figure 25). However, there was a slight decline in the number of families using fresh potatoes and an increase in those using potato chips as income increased. About 25 percent of the families in the $4,000 to $5,000 income group used potato chips during the sample week, whereas between 30 and 40 percent of the high income families used them. The same pattern held true for frozen and other forms of processed potatoes.




Source: Reference 7
Figure 24: Percentage of Families Using Fresh Potatoes and Potato Chips By Income Group, United States, 1955



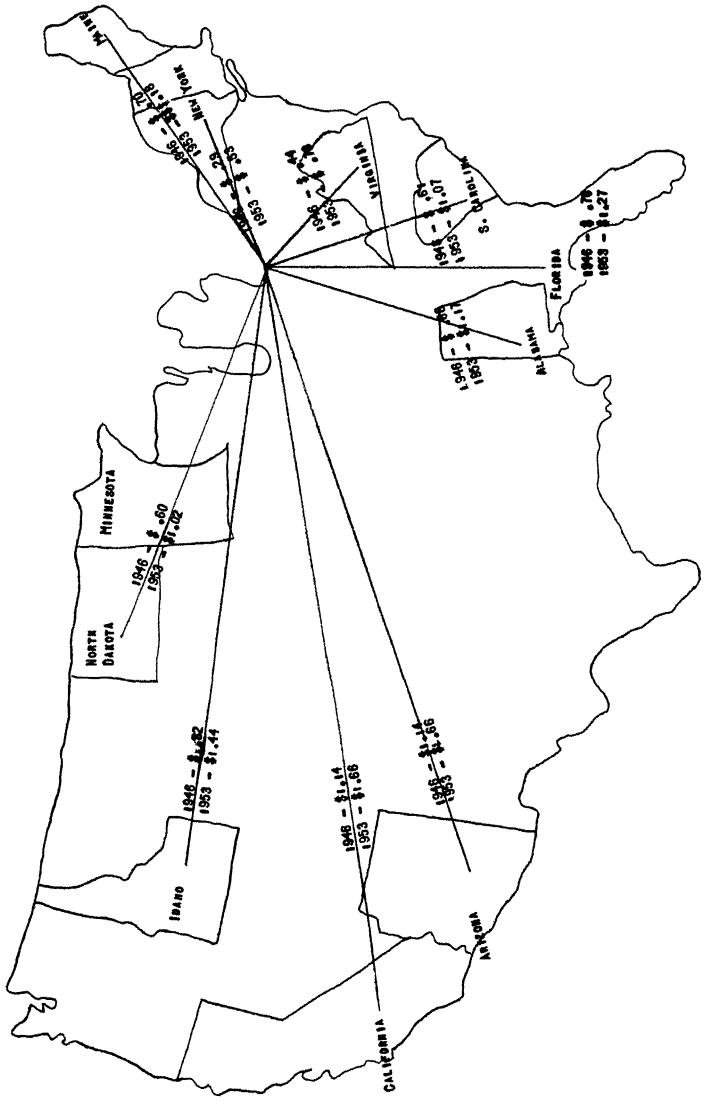

Source: Reference 7
Figure 25: Consumption of Fresh Potatoes and Potato Chips in One Week, By Income Group, United States, 1955

## FREIGHT RATES

A major permanent advantage of Ohio potato growers is their closeness to large areas of population. Potatoes have a relatively low value per pound compared with produce such as apples, peaches, citrus fruits and tomatoes. Freight rates vary with the product but are largely based on cost per pound. The advantage of the nearby producer is greater with potatoes than with these other products; as freight rates increase, the advantage of Ohio potato producers increases. It is probable that except for the freight advantage, potato production in Ohio would have declined much more than it has.

Freight accounted for over one-third of the Cleveland wholesale price of potatoes shipped from California, Maine and Florida in

1953. Freight charges for potatoes shipped from New York, Pennsylvania and Virginia were about one-fourth of the Cleveland wholesale price of potatoes. For Ohio growers, freight charges accounted for 10 to 15 percent of the price. At the present time most Ohio growers can truck potatoes to major Ohio markets at a cost of 20 to 25 cents per 100 pounds. This means that Ohio has almost a $1.00 per hundred pound advantage over Florida and Maine and from 20 to 40 cents over nearby states such as New York and Michigan (Figure 26).

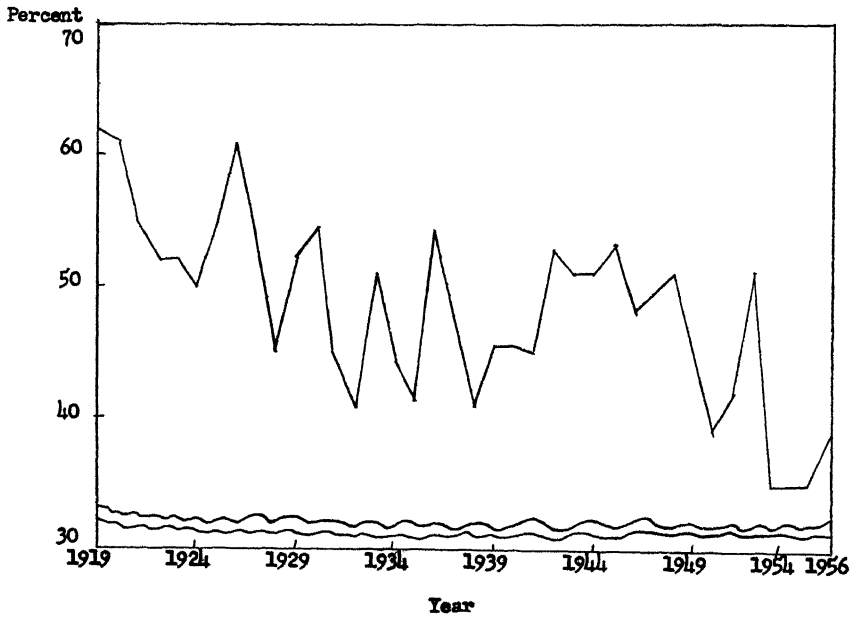



Source: Reference 11
Figure 26: Freight Rates of Potatoes Per 100 Pounds From Selected States to Cleveland, Ohio, 1946 and 1953

This location advantage which Ohio growers have affects grading and method of sales. With the relatively high freight costs, "off-grade" potatoes cannot be economically shipped in from distant states. In contrast with this, "off-grade" Ohio potatoes will yield a substantial return above the cost of freight to the nearby market. Much of the supply of "off-grade" potatoes is sold at the storage or packing house door in the buyers container. Thus, Ohio's location advantage actually works as a disadvantage in maintaining a good reputation of Ohio potatoes. Ohio growers are selling their entire crop in competition with only No. 1 potatoes from other states.

## MARKETING MARGINS

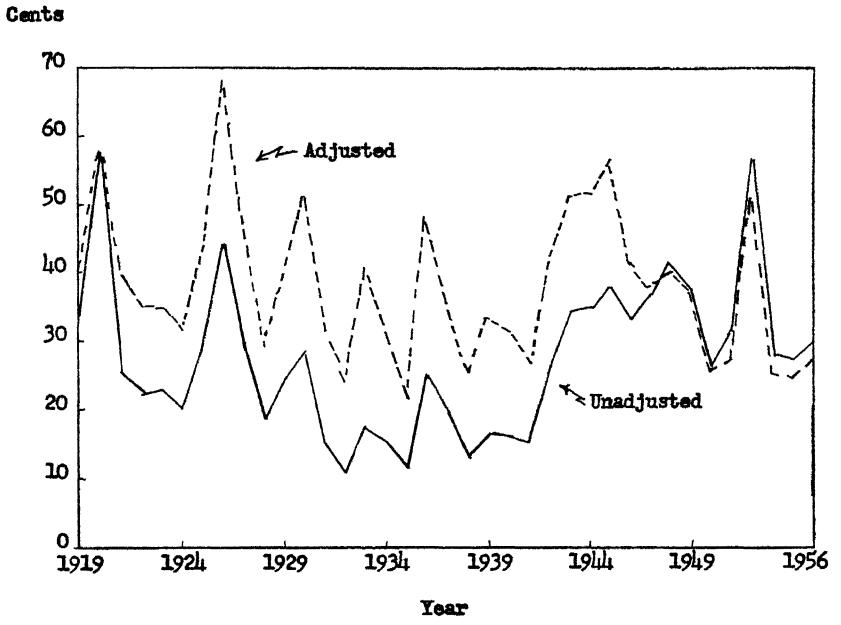
The farmer's share of the dollar spent by the consumer for potatoes has varied from as high as 60 percent 35 years ago to 35 percent in the last few years (Figure 27). Year to year variations in this share are largely due to changes in the size of the potato crop. The retail price tends to move in opposite directions from the size of crop. Marketing charges remain relatively stable from year to year. Thus as the price rises, the farmer tends to receive a higher percentage.




Source: Reference 10

Figure 27: Farmers Share of Consumer's Potato Dollar, United States, 1919 to 1956

The adjusted farm price (in 1910 - 14 dollars) for 15 pounds of potatoes has averaged between 35 and 40 cents (Figure 28). The year to year variations have been due largely to changes in the size of crop.

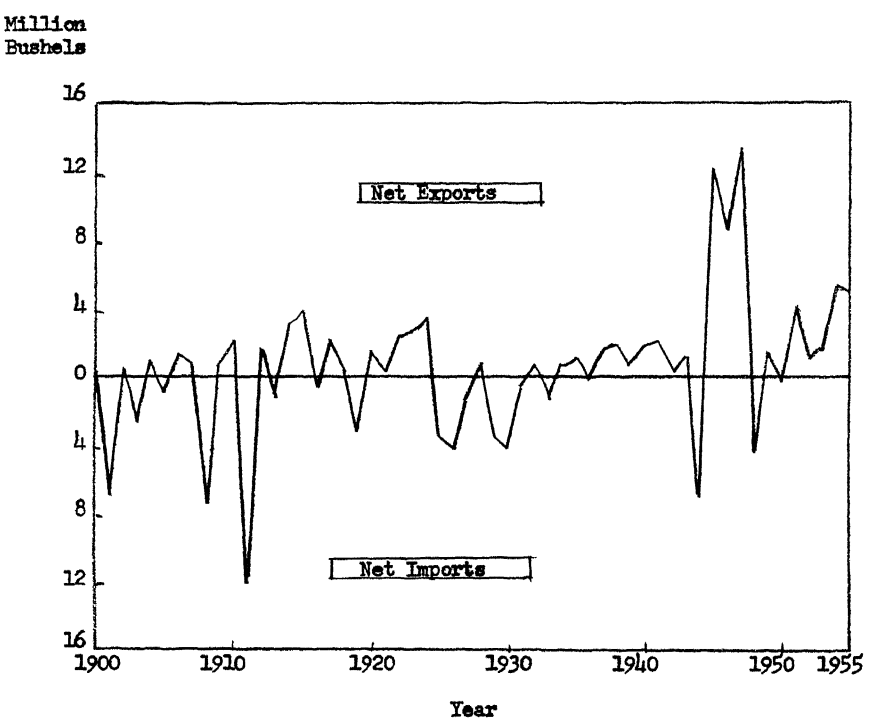



Source: Reference 10
Figure 28: Farm Value of 15 Pounds of Potatoes Unadjusted and Adjusted by Index of Wholesale Prices, United States, 1919 to 1956

## FOREIGN TRADE

Foreign markets are not an important market for United States potatoes. In 19 out of the last 53 years, the imports of potatoes have actually been greater than the exports (Figure 29). In only three years since 1900 has the net export of potatoes (exports - imports) been above 5 million bushels or over 2 percent of the total crop.

Most of the imports are from Canada and these are largely certified seed potatoes. The exports are largely to Canada and Cuba.




Source: Reference 1
Figure 29: Foreign Trade in Potatoes, United States, 1900 to 1955

## LIST OF REFERENCES


1. Agricultural Statistics, U. S. D. A., Washington, D. C., 1942 to 1955.
2. Agricultural Prices, Annual Summaries, 1950 to 1956.
3. Carlot Unloads of Certain Fruits and Vegetables in 100 United States Cities, and Five Canadian Cities, U. S. D. A., Washington, D. C.
4. Census of Agriculture Counties and State Economic Areas, United States Department of Commerce, Bureau of the Census, Ohio, 1950 and 1954.
5. Census of Agriculture, Ohio U. S. Department of Census, Bureau of Census, Washington, 1945.
6. Consumption of Food in the United States, 1909 - 1952, Agricultural Handbook No. 62, U. S. D. A., B. A. E., Washington, D. C., September, 1953.
7. Food Consumption of Households in the United States, Household Food Consumption Survey, Report No. 1, 1955, U. S. D. A., Washington, D. C.
8. Crop Production, Annual Summaries, 1950 to 1956.
9. Estimated Cash Receipts by Ohio Farmers from the Sale of Agricultural Products and from Government Payments, By Counties, 1939 to 1955.
10. Marketing and Transportation Situation, U. S. D. A., A. M. S., Current Issues.
11. Movements, Freight Rates, and Prices of Potatoes, U. S. D. A., A. M. S., November, 1953.
12. National Food Situation, U. S. D. A., A. M. S., Current Issues.
13. National Potato Chip Institute, 1660 Hanna Building, Cleveland, Ohio.
14. Ohio Agricultural Statistics, Ohio Agricultural Experiment Station.
15. Ohio Crop Reporting Service, U. S. D. A., A. M. S.
16. Potatoes, Statistical Bulletin No. 122, U. S. D. A., B. A. E., Washington, D. C., March, 1953.
17. Potatoes, Sweet Potatoes, By States, 1949 - 1955, Statistical Bulletin, No. 190, U. S. D. A., A. M. S., Crop Reporting Board, Washington, D. C., August, 1956.
18. Potatoes and Sweet Potatoes, Usual Dates for Planting, Harvesting, Marketing, By Seasons, In Principal Areas. Agricultural Handbook No. 127, U. S. D. A., A. M. S., Crop Reporting Board, Washington, D. C., June, 1957.
19. United States Department of Agriculture, Agricultural Marketing Service, Fruit and Vegetable Division, Washington, D. C.
20. Unloads of Fresh Fruits and Vegetables at Cleveland, U. S. D. A., A. M. S., Fruit and Vegetable Division, 1954 to 1956.

## TABLE 1

### Potato Production, Selected Areas
### 1909 - 1956

| Year | United States | Early States | Intermediate States | Central Late States | Eastern Late States | Western Late States |
|---|---|---|---|---|---|---|
| | | | (million bushel) | | | |
| 1909 | 390.2 | 17.2 | 40.2 | 162.5 | 115.6 | 54.7 |
| 1910 | 342.1 | 17.5 | 42.9 | 126.0 | 111.6 | 43.7 |
| 1911 | 302.7 | 12.6 | 23.2 | 140.0 | 84.4 | 42.6 |
| 1912 | 406.2 | 16.1 | 42.9 | 169.3 | 117.4 | 60.5 |
| 1913 | 332.4 | 15.6 | 34.3 | 135.8 | 101.9 | 44.8 |
| 1914 | 368.2 | 13.8 | 34.1 | 146.9 | 125.6 | 47.8 |
| 1915 | 336.8 | 17.7 | 49.9 | 130.4 | 84.8 | 53.9 |
| 1916 | 270.4 | 16.4 | 44.3 | 74.9 | 82.0 | 52.8 |
| 1917 | 298.7 | 21.1 | 54.0 | 154.0 | 104.0 | 65.5 |
| 1918 | 346.1 | 23.2 | 40.6 | 138.1 | 88.6 | 55.6 |
| 1919 | 297.3 | 17.4 | 39.3 | 104.9 | 92.6 | 43.1 |
| 1920 | 368.9 | 18.9 | 47.3 | 141.6 | 104.0 | 57.1 |
| 1921 | 325.3 | 17.5 | 36.0 | 109.4 | 98.9 | 63.5 |
| 1922 | 415.4 | 23.6 | 45.9 | 171.0 | 93.4 | 81.5 |
| 1923 | 366.4 | 21.2 | 37.4 | 145.8 | 101.8 | 60.2 |
| 1924 | 384.2 | 25.8 | 45.0 | 146.4 | 114.5 | 52.4 |
| 1925 | 296.5 | 21.3 | 29.1 | 102.8 | 86.1 | 57.3 |
| 1926 | 321.6 | 26.4 | 33.4 | 110.3 | 93.1 | 58.6 |
| 1927 | 369.6 | 28.7 | 42.2 | 120.2 | 94.8 | 83.7 |
| 1928 | 427.2 | 36.7 | 51.1 | 154.9 | 106.9 | 77.6 |
| 1929 | 333.4 | 29.7 | 36.9 | 100.5 | 102.7 | 63.5 |
| 1930 | 343.8 | 34.0 | 37.6 | 90.4 | 100.3 | 81.5 |
| 1931 | 384.3 | 42.8 | 37.6 | 116.6 | 117.6 | 69.6 |
| 1932 | 374.7 | 31.3 | 34.8 | 128.5 | 109.0 | 71.1 |
| 1933 | 343.2 | 31.9 | 27.3 | 97.2 | 106.9 | 79.9 |
| 1934 | 406.5 | 40.4 | 32.3 | 126.7 | 141.2 | 65.9 |
| 1935 | 378.9 | 38.3 | 35.3 | 126.4 | 101.8 | 77.2 |
| 1936 | 324.0 | 32.3 | 26.5 | 87.0 | 105.2 | 72.8 |
| 1937 | 376.4 | 47.2 | 35.4 | 100.4 | 110.4 | 83.1 |
| 1938 | 355.8 | 47.0 | 36.1 | 101.1 | 96.0 | 75.6 |
| 1939 | 342.4 | 46.8 | 27.7 | 94.4 | 93.5 | 80.0 |
| 1940 | 376.9 | 48.8 | 33.5 | 97.0 | 105.8 | 91.8 |

**TABLE 1 (Continued)**

| Year | United States | Early States | Intermediate States | Central Late States | Eastern Late States | Western Late States |
|---|---|---|---|---|---|---|
| | | | (million bushel) | | | |
| 1941 | 335.7 | 47.5 | 29.3 | 91.3 | 106.9 | 80.8 |
| 1942 | 368.9 | 53.0 | 31.5 | 89.3 | 104.1 | 91.0 |
| 1943 | 458.9 | 65.3 | 35.0 | 105.7 | 135.8 | 117.0 |
| 1944 | 383.9 | 57.5 | 23.1 | 81.5 | 115.8 | 106.0 |
| 1945 | 419.4 | 63.0 | 30.6 | 91.7 | 115.1 | 118.9 |
| 1946 | 487.3 | 81.7 | 35.7 | 86.7 | 159.1 | 124.2 |
| 1947 | 389.0 | 59.5 | 31.0 | 72.6 | 132.7 | 93.3 |
| 1948 | 449.9 | 65.0 | 31.9 | 80.1 | 148.6 | 124.2 |
| 1949 | 402.4 | 59.5 | 22.6 | 77.9 | 133.4 | 109.0 |
| 1950 | 429.9 | 63.8 | 27.4 | 82.5 | 128.6 | 127.5 |
| 1951 | 320.5 | 49.2 | 20.4 | 58.5 | 97.1 | 95.4 |
| 1952 | 349.1 | 52.4 | 14.1 | 59.6 | 107.8 | 115.3 |
| 1953 | 380.1 | 56.6 | 17.6 | 65.7 | 112.7 | 118.5 |
| 1954 | 356.0 | 51.9 | 16.1 | 70.4 | 104.8 | 112.7 |
| 1955 | 378.4 | 61.4 | 20.3 | 57.4 | 112.9 | 126.4 |
| 1956 | 405.4 | 56.5 | 18.8 | 75.1 | 120.9 | 134.1 |

| Year | Winter | Spring Early | Spring Late | Summer Early | Summer Late | Fall Eastern | Fall Central | Fall Western |
|---|---|---|---|---|---|---|---|---|
| | | | | (million cwt.) | | | | |
| 1949 | 2.6 | 2.5 | 28.0 | 11.5 | 33.6 | 73.1 | 44.3 | 162.7 |
| 1950 | 3.3 | 2.1 | 30.5 | 11.9 | 37.2 | 70.0 | 48.6 | 55.4 |
| 1951 | 3.3 | 2.6 | 22.7 | 10.0 | 31.4 | 52.0 | 32.9 | 40.8 |
| 1952 | 2.8 | 3.1 | 24.6 | 7.6 | 31.8 | 55.9 | 35.4 | 49.8 |
| 1953 | 4.0 | 3.8 | 30.4 | 9.2 | 32.9 | 59.9 | 37.9 | 53.5 |
| 1954 | 3.7. | 3.8 | 24.7 | 8.5 | 32.6 | 55.7 | 41.3 | 49.0 |
| 1955 | 5.2 | 3.8 | 26.9 | 11.1 | 31.7 | 61.6 | 31.3 | 55.5 |
| 1956 | 5.3 | 4.0 | 24.3 | 9.5 | 34.1 | 66.4 | 40.8 | 58.7 |

Source: Reference 8, 16 and 17

## TABLE 2

### Potato Production, Selected States 1909 - 1956

| Year | Ohio | Idaho | Maine | Michigan | New York |
|---|---|---|---|---|---|
| | | | (million bushel) | | |
| 1909 | 20.4 | 4.6 | 28.6 | 38.3 | 48.5 |
| 1910 | 17.9 | 3.5 | 25.5 | 35.3 | 45.8 |
| 1911 | 12.8 | 4.8 | 23.4 | 30.3 | 31.5 |
| 1912 | 14.6 | 6.3 | 26.4 | 33.3 | 45.4 |
| 1913 | 12.3 | 5.3 | 35.9 | 26.8 | 29.5 |
| 1914 | 13.8 | 4.8 | 38.6 | 34.3 | 47.5 |
| 1915 | 10.7 | 5.2 | 25.3 | 17.8 | 25.6 |
| 1916 | 7.5 | 5.7 | 26.3 | 11.9 | 24.8 |
| 1917 | 17.6 | 8.8 | 19.0 | 33.0 | 39.9 |
| 1918 | 11.6 | 7.4 | 20.7 | 25.3 | 33.7 |
| 1919 | 7.6 | 6.5 | 27.1 | 24.2 | 32.7 |
| 1920 | 12.1 | 9.4 | 23.4 | 33.7 | 39.6 |
| 1921 | 6.7 | 11.8 | 37.2 | 24.9 | 32.2 |
| 1922 | 9.3 | 15.8 | 25.5 | 36.4 | 33.9 |
| 1923 | 10.5 | 12.2 | 31.7 | 32.1 | 35.5 |
| 1924 | 8.6 | 10.9 | 40.8 | 30.6 | 39.6 |
| 1925 | 11.1 | 13.6 | 31.5 | 22.7 | 22.3 |
| 1926 | 9.2 | 15.2 | 35.6 | 25.7 | 26.3 |
| 1927 | 11.1 | 24.2 | 36.1 | 22.1 | 26.5 |
| 1928 | 11.4 | 19.5 | 38.7 | 31.4 | 28.8 |
| 1929 | 10.4 | 15.8 | 48.5 | 16.0 | 22.1 |
| 1930 | 9.7 | 25.8 | 44.8 | 14.6 | 24.8 |
| 1931 | 12.2 | 24.0 | 48.0 | 24.6 | 31.0 |
| 1932 | 13.5 | 23.6 | 40.5 | 30.3 | 33.1 |
| 1933 | 10.0 | 24.5 | 42.0 | 23.3 | 29.3 |
| 1934 | 14.7 | 23.9 | 55.0 | 36.2 | 38.8 |
| 1935 | 16.5 | 21.8 | 38.6 | 27.6 | 26.6 |
| 1936 | 13.3 | 22.2 | 44.5 | 25.0 | 25.7 |
| 1937 | 9.1 | 29.3 | 46.5 | 25.0 | 28.6 |
| 1938 | 11.0 | 30.0 | 39.4 | 25.5 | 26.8 |
| 1939 | 10.7 | 27.7 | 36.2 | 21.0 | 26.1 |
| 1940 | 9.5 | 32.6 | 42.1 | 17.5 | 28.5 |
| 1941 | 10.6 | 27.5 | 43.9 | 20.0 | 28.5 |
| 1942 | 9.1 | 30.6 | 43.8 | 16.6 | 28.9 |

**TABLE II (Continued)**

| Year | Ohio | Idaho | Maine | Michigan | New York |
|---|---|---|---|---|---|
| | | | (million Bushel) | | |
| 1943 | 8.6 | 43.5 | 72.0 | 22.4 | 30.5 |
| 1944 | 6.4 | 39.6 | 52.2 | 18.8 | 29.9 |
| 1945 | 7.0 | 46.1 | 54.5 | 17.8 | 31.0 |
| 1946 | 8.0 | 46.3 | 78.4 | 17.9 | 44.0 |
| 1947 | 5.6 | 28.6 | 65.1 | 11.0 | 33.7 |
| 1948 | 7.1 | 45.6 | 75.1 | 14.6 | 40.0 |
| 1949 | 6.4 | 36.2 | 70.4 | 15.3 | 31.0 |
| 1950 | 7.7 | 49.2 | 63.4 | 15.3 | 34.4 |
| 1951 | 5.8 | 36.7 | 44.5 | 10.8 | 27.9 |
| 1952 | 4.8 | 42.8 | 54.4 | 10.4 | 30.7 |
| 1953 | 4.8 | 46.5 | 59.6 | 10.7 | 30.9 |
| 1954 | 5.8 | 40.8 | 49.0 | 9.8 | 30.9 |
| 1955 | 5.5 | 55.1 | 59.7 | 9.4 | 30.8 |
| 1956 | 5.0 | 58.2 | 67.7 | 13.4 | 30.9 |

Source: Reference 8 and 16

## TABLE III

### Potato Acreage, Selected Areas
### 1909 - 1956

| Year | United States | Early States | Intermediate States | Central Late States | Eastern Late States | Western Late States |
|---|---|---|---|---|---|---|
| | | | (1000 Acres) | | | |
| 1909 | 3675 | 224 | 446 | 1604 | 932 | 449 |
| 1910 | 3644 | 249 | 449 | 1574 | 932 | 440 |
| 1911 | 3532 | 234 | 424 | 1545 | 988 | 442 |
| 1912 | 3505 | 224 | 411 | 1515 | 872 | 483 |
| 1913 | 3477 | 227 | 417 | 1509 | 886 | 438 |
| 1914 | 3417 | 222 | 408 | 1456 | 897 | 434 |
| 1915 | 3433 | 231 | 421 | 1466 | 883 | 432 |
| 1916 | 3274 | 225 | 404 | 1402 | 809 | 434 |
| 1917 | 3801 | 267 | 494 | 1543 | 945 | 552 |
| 1918 | 3597 | 294 | 452 | 1527 | 856 | 468 |
| 1919 | 3300 | 237 | 419 | 1426 | 783 | 435 |
| 1920 | 3301 | 246 | 428 | 1412 | 795 | 420 |
| 1921 | 3598 | 249 | 439 | 1620 | 788 | 502 |
| 1922 | 3901 | 287 | 426 | 1782 | 801 | 605 |
| 1923 | 3378 | 271 | 393 | 1521 | 725 | 468 |
| 1924 | 3106 | 304 | 382 | 1286 | 731 | 403 |
| 1925 | 2810 | 291 | 350 | 1110 | 667 | 392 |
| 1926 | 2811 | 322 | 331 | 1102 | 630 | 426 |
| 1927 | 3182 | 356 | 331 | 1285 | 695 | 515 |
| 1928 | 3499 | 417 | 369 | 1416 | 742 | 555 |
| 1929 | 3030 | 343 | 320 | 1242 | 686 | 440 |
| 1930 | 3139 | 394 | 332 | 1249 | 689 | 475 |
| 1931 | 3490 | 473 | 344 | 1399 | 720 | 554 |
| 1932 | 3568 | 412 | 330 | 1534 | 724 | 568 |
| 1933 | 3423 | 408 | 319 | 1467 | 701 | 527 |
| 1934 | 3599 | 449 | 333 | 1514 | 781 | 522 |
| 1935 | 3469 | 437 | 317 | 1476 | 735 | 503 |
| 1936 | 2960 | 405 | 289 | 1173 | 649 | 445 |
| 1937 | 3055 | 483 | 295 | 1122 | 682 | 479 |
| 1938 | 2870 | 457 | 272 | 1063 | 638 | 448 |
| 1939 | 2813 | 460 | 265 | 1051 | 607 | 431 |
| 1940 | 2832 | 467 | 256 | 1065 | 629 | 428 |

**TABLE III (Continued)**

| Year | United States | Early States | Intermediate States | Central Late States | Eastern Late States | Western Late States |
|---|---|---|---|---|---|---|
| | | | (1000 Acres) | | | |
| 1941 | 2693 | 490 | 257 | 1084 | 596 | 409 |
| 1942 | 2671 | 499 | 263 | 983 | 607 | 427 |
| 1943 | 3239 | 610 | 300 | 944 | 707 | 578 |
| 1944 | 2780 | 542 | 253 | 1123 | 650 | 494 |
| 1945 | 2664 | 472 | 234 | 904 | 635 | 549 |
| 1946 | 2527 | 497 | 222 | 815 | 611 | 504 |
| 1947 | 2001 | 375 | 188 | 717 | 505 | 383 |
| 1948 | 1981 | 366 | 178 | 568 | 507 | 428 |
| 1949 | 1759 | 324 | 152 | 520 | 427 | 398 |
| 1950 | 1696 | 330 | 142 | 471 | 378 | 412 |
| 1951 | 1334 | 252 | 117 | 445 | 314 | 331 |
| 1952 | 1402 | 254 | 107 | 324 | 367 | 351 |
| 1953 | 1525 | 304 | 105 | 361 | 372 | 383 |
| 1954 | 1408 | 239 | 100 | 345 | 349 | 275 |
| 1955 | 1414 | 259 | 103 | 331 | 333 | 388 |
| 1956 | 1391 | 244 | 93 | 325 | 319 | 410 |

| Year | Winter | Spring | | Summer | | Fall | | |
|---|---|---|---|---|---|---|---|---|
| | | Early | Late | Early | Late | Eastern | Central | Western |
| | | | | (1000 Acres) | | | | |
| 1949 | 18 | 25 | 230 | 154 | 266 | 367 | 430 | 285 |
| 1950 | 23 | 23 | 243 | 146 | 240 | 328 | 416 | 295 |
| 1951 | 23 | 19 | 183 | 128 | 214 | 266 | 305 | 236 |
| 1952 | 17 | 22 | 187 | 116 | 215 | 302 | 307 | 252 |
| 1953 | 27 | 29 | 223 | 124 | 214 | 309 | 351 | 286 |
| 1954 | 21 | 24 | 175 | 109 | 199 | 296 | 333 | 274 |
| 1955 | 30 | 26 | 178 | 111 | 190 | 293 | 299 | 287 |
| 1956 | 34 | 26 | 166 | 100 | 188 | 279 | 292 | 305 |

Source: Reference 8, 16 and 17

## TABLE IV

### Potato Acreage, Selected States
### 1909 - 1956

| Year | Ohio | Idaho | Maine | Michigan | New York |
|---|---|---|---|---|---|
| | | | (1000 Acres) | | |
| 1909 | 213 | 28 | 136 | 365 | 394 |
| 1910 | 210 | 28 | 131 | 336 | 395 |
| 1911 | 200 | 30 | 120 | 313 | 375 |
| 1912 | 145 | 36 | 120 | 297 | 360 |
| 1913 | 160 | 34 | 138 | 288 | 360 |
| 1914 | 150 | 34 | 143 | 288 | 365 |
| 1915 | 155 | 33 | 137 | 282 | 355 |
| 1916 | 150 | 35 | 125 | 271 | 310 |
| 1917 | 160 | 52 | 146 | 320 | 350 |
| 1918 | 165 | 42 | 122 | 288 | 330 |
| 1919 | 125 | 44 | 118 | 281 | 311 |
| 1920 | 119 | 48 | 123 | 309 | 317 |
| 1921 | 115 | 64 | 133 | 327 | 313 |
| 1922 | 109 | 81 | 150 | 343 | 314 |
| 1923 | 107 | 68 | 122 | 292 | 289 |
| 1924 | 102 | 65 | 138 | 245 | 291 |
| 1925 | 108 | 68 | 126 | 223 | 251 |
| 1926 | 100 | 82 | 125 | 212 | 223 |
| 1927 | 110 | 105 | 157 | 263 | 241 |
| 1928 | 119 | 106 | 176 | 271 | 246 |
| 1929 | 108 | 84 | 166 | 225 | 225 |
| 1930 | 110 | 103 | 179 | 232 | 212 |
| 1931 | 120 | 120 | 186 | 267 | 223 |
| 1932 | 136 | 118 | 170 | 291 | 245 |
| 1933 | 139 | 114 | 150 | 311 | 238 |
| 1934 | 140 | 124 | 171 | 323 | 271 |
| 1935 | 150 | 104 | 157 | 317 | 249 |
| 1936 | 120 | 109 | 155 | 263 | 214 |
| 1937 | 107 | 130 | 163 | 260 | 220 |
| 1938 | 103 | 120 | 155 | 222 | 209 |
| 1939 | 100 | 130 | 154 | 223 | 199 |
| 1940 | 95 | 128 | 160 | 214 | 199 |
| 1941 | 87 | 122 | 154 | 182 | 188 |
| 1942 | 83 | 133 | 160 | 169 | 187 |

**TABLE IV (Continued)**

| Year | Ohio | Idaho | Maine | Michigan | New York |
|---|---|---|---|---|---|
| | | | (1000 Acres) | | |
| 1943 | 88 | 189 | 200 | 213 | 209 |
| 1944 | 64 | 168 | 192 | 174 | 199 |
| 1945 | 54 | 205 | 209 | 162 | 182 |
| 1946 | 47 | 178 | 219 | 143 | 176 |
| 1947 | 36 | 130 | 186 | 107 | 141 |
| 1948 | 34 | 152 | 195 | 97 | 145 |
| 1949 | 31 | 147 | 153 | 92 | 127 |
| 1950 | 30 | 164 | 132 | 85 | 110 |
| 1951 | 25 | 131 | 100 | 60 | 102 |
| 1952 | 24 | 138 | 151 | 56 | 107 |
| 1953 | 24 | 155 | 159 | 58 | 106 |
| 1954 | 23 | 150 | 153 | 49 | 96 |
| 1955 | 23 | 170 | 141 | 58 | 97 |
| 1956 | 20 | 187 | 145 | 52 | 88 |

Source: Reference 8 and 16

## TABLE V

### Potato Price, Selected Areas

### 1909 - 1956

| Year | United States | Early States | Intermediate States | Central Late States | Eastern Late States | Western Late States |
|---|---|---|---|---|---|---|
| | | | (Dollars per bushel) | | | |
| 1909 | .57 | 1.03 | .79 | .43 | .56 | .67 |
| 1910 | .59 | .90 | .63 | .51 | .50 | .79 |
| 1911 | .94 | 1.08 | 1.09 | .83 | 1.01 | .94 |
| 1912 | .56 | 1.20 | .80 | .40 | .60 | .50 |
| 1913 | .68 | 1.02 | .74 | .59 | .71 | .62 |
| 1914 | .56 | 1.11 | .78 | .44 | .49 | .67 |
| 1915 | .68 | .93 | .56 | .58 | .84 | .68 |
| 1916 | 1.53 | 1.23 | 1.11 | 1.63 | 1.79 | 1.38 |
| 1917 | 1.25 | 2.42 | 1.66 | .98 | 1.30 | 1.08 |
| 1918 | 1.19 | 1.42 | 1.44 | .99 | 1.32 | 1.05 |
| 1919 | 1.94 | 1.88 | 1.76 | 1.92 | 1.98 | 1.89 |
| 1920 | 1.25 | 2.77 | 1.86 | .94 | 1.08 | 1.28 |
| 1921 | 1.13 | 1.65 | 1.25 | 1.08 | 1.08 | .97 |
| 1922 | .66 | 1.39 | .87 | .48 | .75 | .55 |
| 1923 | .93 | 1.60 | 1.37 | .65 | 1.04 | .86 |
| 1924 | .69 | 1.27 | .73 | .50 | .63 | .87 |
| 1925 | 1.70 | 1.52 | 1.64 | 1.58 | 1.98 | 1.55 |
| 1926 | 1.31 | 2.04 | 1.28 | 1.19 | 1.34 | 1.11 |
| 1927 | 1.02 | 1.72 | 1.10 | .88 | 1.13 | .74 |
| 1928 | .53 | .84 | .49 | .41 | .57 | .54 |
| 1929 | 1.31 | 1.32 | 1.30 | 1.27 | 1.36 | 1.24 |
| 1930 | .91 | 1.38 | .93 | .90 | .88 | .68 |
| 1931 | .46 | .70 | .57 | .39 | .40 | .42 |
| 1932 | .38 | .74 | .48 | .30 | .37 | .30 |
| 1933 | .82 | .83 | 1.21 | .74 | .88 | .70 |
| 1934 | .48 | .65 | .49 | .40 | .33 | .50 |
| 1935 | .59 | .64 | .45 | .51 | .70 | .56 |
| 1936 | 1.13 | 1.44 | 1.20 | 1.12 | 1.04 | 1.08 |
| 1937 | .52 | .74 | .56 | .49 | .49 | .39 |
| 1938 | .55 | .61 | .52 | .50 | .62 | .44 |
| 1939 | .69 | .70 | .80 | .63 | .83 | .55 |
| 1940 | .53 | .75 | .57 | .50 | .49 | .40 |

**TABLE V (Continued)**

| Year | United States | Early States | Intermediate States | Central Late States | Eastern Late States | Western Late States |
|---|---|---|---|---|---|---|
| | | | (Dollars per bushel) | | | |
| 1941 | .79 | .71 | .71 | .76 | .85 | .78 |
| 1942 | 1.14 | 1.19 | 1.10 | 1.11 | 1.18 | 1.12 |
| 1943 | 1.28 | 1.52 | 1.40 | 1.25 | 1.23 | 1.15 |
| 1944 | 1.47 | 1.47 | 1.68 | 1.49 | 1.53 | 1.27 |
| 1945 | 1.40 | 1.78 | 1.52 | 1.13 | 1.43 | 1.15 |
| 1946 | 1.22 | 1.35 | 1.21 | 1.26 | 1.19 | 1.11 |
| 1947 | 1.61 | 1.62 | 1.50 | 1.62 | 1.55 | 1.69 |
| 1948 | 1.53 | 1.68 | 1.54 | 1.50 | 1.57 | 1.40 |
| 1949 | 1.28 | 1.53 | 1.35 | 1.20 | 1.12 | 1.27 |
| 1950 | .92 | 1.14 | .91 | 1.01 | .82 | .81 |
| 1951 | 1.63 | 1.48 | 1.27 | 1.79 | 1.74 | 1.58 |
| 1952 | 1.96 | 2.45 | 2.62 | 2.09 | 1.77 | 1.77 |
| 1953 | .79 | 1.04 | 1.00 | .91 | .63 | .72 |
| 1954 | 1.30 | 1.57 | 1.40 | 1.16 | 1.33 | 1.21 |
| 1955 | 1.07 | 1.42 | .98 | 1.18 | .99 | 1.08 |
| 1956 | 1.28 | | 2.28 | .95 | .98 | |

| Year | Winter | Spring Early | Spring Late | Summer Early | Summer Late | Fall Eastern | Fall Central | Fall Western |
|---|---|---|---|---|---|---|---|---|
| | | | | (Dollars per cwt.) | | | | |
| 1949 | 3.58 | 3.64 | 2.40 | 2.34 | 2.22 | 1.83 | 2.06 | 2.09 |
| 1950 | 2.80 | 2.78 | 1.74 | 1.80 | 1.69 | 1.36 | 1.48 | 1.24 |
| 1951 | 2.65 | 2.77 | 2.33 | 2.26 | 1.90 | 3.07 | 3.02 | 2.79 |
| 1952 | 4.29 | 4.02 | 4.01 | 4.67 | 4.00 | 2.72 | 3.06 | 2.66 |
| 1953 | 3.45 | 2.41 | 1.50 | 1.74 | 1.51 | 1.00 | 1.29 | 1.12 |
| 1954 | 2.16 | 2.61 | 2.62 | 2.53 | 2.06 | 2.21 | 1.82 | 2.05 |
| 1955 | 3.37 | 3.95 | 2.04 | 1.66 | 1.26 | 1.68 | 1.97 | 1.58 |
| 1956 | | | | | | | | |

Source: Reference 8, 16, and 17

## TABLE VI

### Potato Price, Selected States

### 1909 - 1956

| Year | Ohio | Idaho | Maine | Michigan | New York |
|---|---|---|---|---|---|
| | | (Dollars per bushel) | | | |
| 1909 | .59 | .56 | .41 | .32 | .56 |
| 1910 | .60 | .76 | .39 | .37 | .50 |
| 1911 | 1.07 | .75 | .96 | .84 | 1.02 |
| 1912 | .63 | .37 | .48 | .40 | .64 |
| 1913 | .89 | .53 | .55 | .56 | .82 |
| 1914 | .71 | .57 | .33 | .34 | .52 |
| 1915 | .72 | .65 | .85 | .70 | .84 |
| 1916 | 1.81 | 1.32 | 1.84 | 1.94 | 1.80 |
| 1917 | 1.34 | .87 | 1.21 | .88 | 1.26 |
| 1918 | 1.64 | .82 | 1.11 | 1.02 | 1.32 |
| 1919 | 2.38 | 1.60 | 1.94 | 2.00 | 2.00 |
| 1920 | 1.67 | .91 | .77 | .66 | 1.09 |
| 1921 | 1.66 | .77 | .85 | 1.04 | 1.20 |
| 1922 | 1.02 | .39 | .60 | .44 | .76 |
| 1923 | 1.11 | .62 | .86 | .59 | 1.09 |
| 1924 | .97 | .63 | .47 | .45 | .68 |
| 1925 | 1.70 | 1.41 | 1.88 | 1.64 | 2.11 |
| 1926 | 1.63 | .97 | 1.15 | 1.11 | 1.44 |
| 1927 | 1.33 | .55 | .96 | .91 | 1.25 |
| 1928 | .81 | .41 | .43 | .36 | .66 |
| 1929 | 1.54 | 1.15 | 1.21 | 1.34 | 1.53 |
| 1930 | 1.25 | .47 | .73 | .89 | .97 |
| 1931 | .62 | .29 | .25 | .32 | .50 |
| 1932 | .50 | .22 | .26 | .27 | .40 |
| 1933 | 1.20 | .50 | .69 | .75 | 1.02 |
| 1934 | .61 | .37 | .20 | .29 | .38 |
| 1935 | .61 | .47 | .66 | .55 | .72 |
| 1936 | 1.22 | .92 | .92 | 1.02 | 1.11 |
| 1937 | .78 | .24 | .37 | .48 | .53 |
| 1938 | .68 | .30 | .55 | .48 | .65 |
| 1939 | .87 | .42 | .74 | .67 | .86 |
| 1940 | .80 | .24 | .37 | .57 | .53 |
| 1941 | .90 | .73 | .80 | .83 | .82 |
| 1942 | 1.34 | .87 | 1.10 | 1.25 | 1.14 |

## TABLE VI (Continued)

Potato Price, Selected States
1909 to 1956

| Year | Ohio | Idaho | Maine | Michigan | New York |
|---|---|---|---|---|---|
| | | (Dollars per bushel) | | | |
| 1943 | 1.86 | .87 | 1.02 | 1.33 | 1.35 |
| 1944 | 2.02 | 1.02 | 1.32 | 1.59 | 1.57 |
| 1945 | 1.91 | .94 | 1.28 | 1.37 | 1.46 |
| 1946 | 1.73 | .91 | 1.08 | 1.22 | 1.17 |
| 1947 | 1.99 | 1.58 | 1.45 | 1.72 | 1.52 |
| 1948 | 1.84 | 1.20 | 1.52 | 1.40 | 1.51 |
| 1949 | 1.60 | 1.02 | 1.00 | 1.25 | 1.13 |
| 1950 | 1.27 | .52 | .77 | 1.01 | .71 |
| 1951 | 1.74 | 1.37 | 1.78 | 1.97 | 1.35 |
| 1952 | 2.88 | 1.50 | 1.32 | 2.03 | 2.10 |
| 1953 | 1.44 | .57 | .44 | .92 | .63 |
| 1954 | 1.64 | 1.11 | 1.30 | 1.34 | 1.17 |
| 1955 | 1.23 | .83 | 1.06 | 1.00 | .71 |
| 1956 | 1.63 | .90 | .75 | .95 | 1.16 |

Source: Reference 8 and 16